THE EFFECTS OF INTUITION ON ETHICAL DECISION MAKING:

THE ROLE OF THE CONCERN FOR OTHERS' INTERESTS

by

Teng Zhang

A dissertation submitted to the faculty of
The University of Utah
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

Business Administration

David Eccles School of Business

The University of Utah

December 2016

The University of Utah Graduate School

STATEMENT OF DISSERTATION APPROVAL

The dissertation of **Teng Zhang**

has been approved by the following supervisory committee members:

Kristin Smith-Crowe	, Chair	7/11/16 Date Approved
Arthur P. Brief	, Member	5/9/16 Date Approved
Kristina A. Diekmann	, Member	5/9/16 Date Approved
Jennifer R. Overbeck	, Member	7/12/16 Date Approved
Chen-Bo Zhong	, Member	6/8/16 Date Approved

and by **William Hesterly** , Associate Dean

of the **David Eccles School of Business**

and by David B. Kieda, Dean of The Graduate School.

ABSTRACT

As a mode of thought and information processing strategy, intuition can lead people to behave ethically. However, very little is known about when intuition leads to ethical outcomes and why. Drawing on research on prosociality, I argue that intuitive decisions are generally more ethical than deliberative ones because people have a spontaneous concern for others' interests, which can be overcome by self-interested deliberation. Drawing on research on framing, I argue that intuition is less likely to result in ethical decisions under the condition of business framing because business framing attenuates the effect of intuition on the concern for others' interests. I examine the relationships among mode of thought (i.e., intuition vs. deliberation), framing of the decision making context (i.e., business vs. nonbusiness), the concern for others' interests, and the ethicality of one's decisions in a series of experiments. Data across these studies did not provide empirical support for my predictions. However, I found incidental yet consistent empirical evidence that the concern for others' interests is positively associated with ethical decisions.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

I am deeply indebted to my advisor and mentor, Kristin Smith-Crowe, for her continuous support and guidance. As chair of my dissertation committee, Kristin has always been there for me, to listen and give advice. I consider myself extremely fortunate to have an advisor who is as generous, kind, and patient as Kristin. I am also deeply grateful for the advice, encouragement, and guidance from each member of my dissertation committee, Arthur Brief, Kristina Diekmann, Jennifer Overbeck, and Chen-Bo Zhong, whose work inspired me to pursue my dissertation topic in the first place.

I would also like to thank my family members, especially my parents, for their love and support throughout this endeavor. Completing my Ph.D. would have been impossible without their understanding and encouragement, a constant source of strength coming from 7,000 miles away. In times of great stress and difficulties, it is their unwavering belief in me that has lifted me up and refueled my quest for knowledge and wisdom.

CHAPTER 1

INTRODUCTION AND THEORETICAL BACKGROUND

Intuition plays an indispensable role in problem solving and decision making yet it has not been given the credit that it deserves (Betsch, 2008; Dane & Pratt, 2007). Since it arises from a rapid, nonconscious, and holistic process (Dane & Pratt, 2007), intuition is commonly seen as a mode of thought that is devoid of deliberation or rational analysis and therefore a source of bias that renders decision making prone to error, and that is risky and unreliable (Kahneman, Slovic, & Tversky, 1982; Kahneman & Tversky, 2000; McMackin & Slovic, 2000). Despite this critical view of intuition as an information processing and decision making technique, intuition is widely used in people's daily lives (Kahneman, 2003; 2011) and has been demonstrated to play an increasingly important role in their organizational lives (Khatri & Ng, 2000; Perlow, Okhuysen, & Repenning, 2002; Weaver, Reynolds, & Brown, 2014). For instance, organizational members who hold higher positions within an organizational hierarchy (e.g., executives) tend to rely more heavily on their intuition when making strategic decisions (Khatri & Ng, 2000). In addition, intuitive decisions have been shown to be superior to deliberative ones when decision makers are experts in a particular domain (Dane, Rockmann, & Pratt, 2012; Hammond, Hamm, Grassia, & Pearson, 1987) or when the decisions are complex (Mikels, Maglio, Reed, & Kaplowitz, 2011).

Intuition and deliberation also influence ethical decision making (Gunia, Wang, Huang, Wang, & Murnighan, 2012; Zhong, 2011). The direction of these effects, however, is still open to debate. Whereas some research indicates that slow, careful contemplation (as opposed to immediate decision) leads to ethical outcomes (Gunia et al., 2012), other research shows the opposite; that is, decision makers who rely on their intuition in making decisions end up behaving more ethically than those who use deliberation (Zhong, 2011). Drawing on research on prosociality, I argue that intuitive decisions are generally more ethical than deliberative ones because people have a spontaneous concern for others' interests (Keltner, Kogan, Piff, & Saturn, 2014; Zaki & Mitchell, 2013), which can be overcome by self-interested deliberation. Drawing on research on framing, I argue that intuition is less likely to result in ethical decisions under business framing because business framing attenuates the effect of intuition on the concern for others' interests.

In the current chapter, I review the literature on intuition and its effects on decision making, particularly ethical decision making, and develop three hypotheses based on prior research. In the next chapter, I propose five studies to test these hypotheses. The goal of this research is to make contributions to the literatures on intuition and ethical decision making. First, by proposing the concern for others' interests as a mediator between intuition and the ethicality of one's decisions, I intend to provide a theoretical account of *why* intuition leads people to behave ethically. In doing so, I intend to advance the existing knowledge of intuition and ethical decision making. Second, by proposing business framing as a moderator of the effect of intuition in ethical decision making, I intend to present a more balanced view that identifies a boundary condition for

the potential benefit of intuition. I propose that even though intuition generally results in ethical decisions, its positive effect may be attenuated when the decision making context is framed as business related.

1.1 Dual-Processing Models of Decision Making

Some of the most influential frameworks for understanding the effects of intuition on decision making are the dual processing models (Betsch, 2008; Dane & Pratt, 2007; Epstein, 2010). The central tenet of these models is that human beings rely on two independent systems for information processing, and both systems can influence decision making processes and outcomes (Epstein, 2010; Sloman, 1996). The intuitive system is evolutionarily old, rapid, automatic, effortless, and holistic, whereas the deliberative system is evolutionarily young, slow, controlled, effortful, and analytic (Bargh, 1996; Bargh & Chartrand, 1999; Dane & Pratt, 2007; Epstein, 2010; Hogarth, 2001; Kahneman, 2003; Sloman, 1996). While they generally agree that both systems play important roles in decision making, scholars tend to disagree on the relative effectiveness of each mode of thought (Betsch, 2008; Dane & Pratt, 2007; Epstein, 2010).

Research on judgment and decision making has demonstrated the pitfalls of relying on intuition. For example, people often make erroneous estimates or reach incorrect conclusions in math and probability tasks when they base their decisions on their intuition or gut feelings (Kahneman et al., 1982; Kahneman & Tversky, 2000; McMackin & Slovic, 2000). To many decision making theorists as well as lay decision makers, the affective component of intuition is a major source of bias (see Damasio, 1994, for an alternative point of view) that renders intuitive decision making prone to error,

being more risky, and less reliable (Kahneman, 2011; Kahneman et al., 1982; McMackin & Slovic, 2000).

Relatively recent work on intuition, however, paints a somewhat different picture in the sense that intuition has been found to result in effective decisions when certain conditions are met (Dane et al., 2012; Hammond et al., 1987; Mikels et al., 2011). For instance, the nature of the tasks at hand may influence the effectiveness of intuitive decisions. Dane and Pratt (2007) suggested that as a decision making technique, intuition can help people make more effective decisions in tasks with less objective criteria for decision evaluation, such as preference ratings (Wilson & Schooler, 1991), interpersonal judgments (Ambady & Rosenthal, 1993), and moral judgments (Haidt, 2001). This is because intuition allows people to approach the situation holistically through an integration of different factors that may influence the effectiveness of a particular decision (Dane & Pratt, 2007; Dane et al., 2012). For example, intuitive decisions have been demonstrated to be more accurate in interpersonal judgment tasks, such as the evaluation of teacher effectiveness based on a short, silent video clip, than deliberative ones (Ambady, 2010; Ambady & Rosenthal, 1993). Ambady and Rosenthal (1993) studied thin-slice judgments, or judgments made based on brief observations of others' behavior, and found that participants who had to make intuitive judgments due to cognitive load were much more accurate, as assessed by comparing each evaluation with a teacher's overall student rating at the end of the semester, in their evaluations than those who were instructed to take 1 minute to record as many reasons as possible before making their ratings.

In addition, Mikels et al. (2011) demonstrated that intuitive decision making is

effective for decisions that are complex. Participants who focused on their feelings about decision options were more likely to arrive at effective decisions than those who paid more attention to the details of the decision options when making complex decisions (e.g., choosing one of four cars with a variety of positive and negative attributes). Furthermore, subsequent deliberation was shown to interfere with the positive effect of intuitive information processing on decision quality (Mikels et al., 2011).

Intuition has also been demonstrated to be more advantageous to experts who possess substantial domain knowledge and expertise (Dane et al., 2012; Salas, Rosen, & DiazGranados, 2010). The idea is that experts in a given domain are able to draw on their expertise and past experiences and process information quickly and efficiently and, as a result, make effective decisions. Dane and colleagues (2012) found that a high level of domain expertise in nondecomposable tasks, or tasks that "are difficult to decompose into a set of operations that lead to a definitive solution" (p. 188), is positively associated with the quality of intuitive decisions. In one study, participants were asked to rate the difficulty of basketball shots. Participants in the intuition condition were instructed to rely on their intuition to make the ratings. In the analysis condition, participants were asked to base their ratings on a careful analysis (Dane et al., 2012). Findings suggest that in the intuition condition, participants with a high level of expertise in basketball performed better than those with a low level of expertise, whereas domain expertise did not affect performance in the analysis condition. The experts in the intuition condition also performed better than those in the analysis condition, presumably because intuition enabled the experts to simultaneously take into consideration different elements of the task at hand and make a holistic assessment, whereas analysis, which tends to focus on

formal rules in decision making, might have been less effective in a nondecomposable task (Dane et al., 2012).

Research on the conditions under which intuition is used in decision making in general is paralleled by the investigation of the role of intuition in moral judgment and ethical decision making. Rationalist and intuitionist models offer competing conceptualizations of the nature of moral judgment and ethical decision making (Haidt, 2001; Rest, 1986; Tenbrunsel & Smith-Crowe, 2008; Zhong, 2011). Next, I will review these two kinds of models.

1.2 Rationalist Versus Intuitionist Models of Ethical Decision Making

As a testimony to the influence of the rationalist perspective in understanding the nature of moral judgments and decisions, several rationalist models have been introduced to account for the process of moral judgment and ethical decision making (Jones, 1991; Kohlberg, 1969; Rest, 1986; Treviño, 1986). For instance, Kohlberg's (1969) model of moral development posits that people make moral judgments and decisions through a slow, conscious, and effortful process in which they systematically apply moral principles, carefully weigh the pros and cons of different options, and finally decide which option to choose (Sonenshein, 2007; Zhong, 2011). A key assumption of Kohlberg's model is that a higher level of moral reasoning leads to the adoption of universal principles and the promotion of general social welfare, which is implied as more moral than other principles, such as obedience to authority (Kohlberg, 1969; Lapsley, 2006; Narvaez, 2010). In other words, moral reasoning is essential in ensuring the ethicality of one's decisions and therefore should be the goal of moral education and

development.

Following Kohlberg, Rest (1986) proposed a multistage model of ethical decision making in which moral awareness, which refers to one's recognition of the ethical implications of the issue at hand, informs subsequent moral judgment, moral intention, and behavior. In other words, recognizing moral relevance of the issue at hand triggers a conscious reasoning process through which a judgment is then made and both teleological and deontological considerations are taken into account (Hunt & Vitell, 1986). Treviño's (1986) person-situation interactionist model and Jones' (1991) issue-contingent model have also emphasized the primary role of deliberation in ethical decision making and the ways in which individual and situational factors influence this process. For example, Treviño (1986) posited that the stage of an individual's cognitive moral development greatly influences his or her decisions such that more sophisticated moral reasoning skills result in ethical decisions, such as helping a drugged student (Kohlberg & Candee, 1984), and hinder unethical behaviors, such as cheating. Jones (1991) synthesized the existing rationalist models on ethical decision making and introduced the construct of moral intensity, or "the extent of issue-related moral imperative in a situation" (p. 372). Jones (1991) proposed that issues of high moral intensity elicit more sophisticated moral reasoning, which in turn is positively associated with moral actions, such as resisting the temptation to cheat (Blasi, 1980).

Despite the dominance of the rationalist perspective in the conceptualization of moral judgment and decision making (Tenbrunsel & Smith-Crowe, 2008; Zhong, 2011), recent research in moral psychology and behavioral ethics has challenged this view and offered an alternative that emphasizes the role of intuition in moral judgment and ethical

decision making. As one of the most influential intuitionist models of moral judgment, Haidt's (2001) social intuitionist model views moral judgment as often a quick, automatic, and effortless process. In this model, deliberation typically plays a peripheral (if any) role and is understood to be mostly post hoc and used to justify a moral judgment that has already been made. Sonenshein (2007) proposed a sensemaking intuition model of ethical decision making in which issue construction and intuitive judgment both precede and outweigh rational analysis, which typically serves the purpose of explaining or justifying the intuitive judgments made by individuals facing ethical issues at work. Empirical evidence shows that people indeed rationalize their intuitive decisions when they are instructed to consider the rational reasons for their judgments or decisions. Pizarro, Uhlmann, and Bloom (2003) examined how people attributed moral blame and praise when the acts in question were causally ambiguous and found an effect of rationalization after intuitive decisions. Participants attributed less blame to the protagonist in the scenario only when their initial judgments were intuitive (as opposed to deliberative), suggesting that participants engaged in rationalization only after they had relied on intuition to make a decision (Pizarro et al., 2003). That is, "once the intuitive system is primed, the rational system engages in post hoc justification of the intuitive system" (Pizarro et al., 2003, p. 658).

To reconcile the rationalist and intuitionist perspectives, Monin, Pizarro, and Beer (2007) suggested that the circumstances under which individuals make moral judgments and decisions will influence the roles of intuition and deliberation. They posited that the descriptions of another person's moral transgressions typically result in intuitive reactions. Whether the hypothetical scenario involves two siblings engaging in consensual sex or a

family eating its dead pet dog (Haidt, Koller, & Dias, 1993), individuals often react quickly and negatively toward these moral transgressions, largely bypassing any rational analysis. Haidt (2007) described this phenomenon as "moral dumbfounding": people know intuitively that something is wrong without being able to explain why. On the contrary, individuals are more likely to rely on deliberation in situations where they themselves have to make a difficult decision (e.g., resolving a moral dilemma) that might have ethical implications. For example, people typically engage in deliberative decision making when asked if they would smother their own crying baby to prevent enemy soldiers from discovering and eventually killing them and other villagers (Monin et al., 2007).

Assuming that individuals are capable of making either intuitive or deliberative decisions, as suggested in dual-processing models, it remains unclear which mode of thought (i.e., intuition versus deliberation) will increase the ethicality of one's decisions (Gunia et al., 2012; Wang et al., 2014; Zhong, 2011). In other words, the rationalist (Jones, 1991; Kohlberg, 1969; Rest, 1986; Treviño, 1986) and intuitionist (Haidt, 2001; Sonenshein, 2007) models of moral judgment and ethical decision making have primarily focused on the descriptive aspect of moral judgment and decision making by offering competing views on what people *naturally do* when making these judgments and decisions. A key element that is missing from these models is the prescriptive aspect, that is, what people *should do* (in terms of using intuition versus deliberation) when they make moral judgments and decisions. This distinction between "what is" and "what should be" is critical because accumulating evidence indicates that individuals are capable of overriding their initial, intuitive reactions by engaging in deliberation in moral

judgment and decision making and that which mode of thought is eventually relied upon could influence the ethicality of one's decisions.

In this dissertation, I investigate when intuition leads to ethical outcomes and why. In the next section, I argue that intuition generally results in ethical decisions because people have a spontaneous concern for others' interests, which can be overcome by self-interested deliberation. Furthermore, I argue that intuition is less likely to result in ethical decisions under the condition of business framing because business framing weakens the effect of intuition on the concern for others' interests.

1.3 The Role of the Concern for Others' Interests

As a mode of thought, intuition plays an indispensable role in information processing and decision making (Dane & Pratt, 2007). Of importance, intuition makes the task of dealing with environmental stimuli manageable (Reynolds, 2006). Unlike the slow and effortful deliberative system, the intuitive system enables individuals to process and react to environmental stimuli quickly and efficiently without constantly exerting conscious effort (Ambady, 2010; Bargh, 1996; Reynolds, 2006). According to Reynolds (2006), the intuitive process "…is quite cost efficient in the sense that it could be exceptionally debilitating to process information related to all of the stimuli encountered in a given day" (p. 739). In other words, the human brain cannot function properly without the intuitive system because the stimuli individuals encounter on a daily basis can easily overwhelm the deliberative system. As I will argue below, intuition also plays an important role in the moral domain because it typically leads people to behave ethically, whereas deliberation can tempt people into pursuing their self-interest at the

expense of others' interests.

It has long been established that people engage in behaviors that benefit others, even if doing so yields no immediate benefit (Axelrod & Hamilton, 1984; Bowles & Gintis, 2011; Nowak & Sigmund, 2005; Penner, Dovidio, Piliavin, & Schroeder, 2005; Tomasello, 2009). For example, people donate to charities (List, 2011), volunteer (Omoto, Snyder, & Hackett, 2010), help a stranger on the street (Levine, 2003; Levine, Martinez, Brase, & Sorenson, 1994), and cooperate with others in laboratory settings (Henrich et al., 2004). Even infants and children demonstrate a tendency to help others in need (Bloom, 2013; Hamlin, Wynn, & Bloom, 2007; Warneken & Tomasello, 2006, 2007). For instance, Warneken and Tomasello (2006) found that without any prompting, 18-month-old infants helped the experimenter achieve his goal, such as getting an object that was out of reach. Among various prosocial behaviors, what remains most puzzling is why people would be kind and generous toward strangers (Keltner et al., 2014; Zaki & Mitchell, 2013). In experimental games, it has been shown across studies that people tend to offer a positive amount of their endowment to a stranger with whom they know they will not interact again in the future (for a review, see Camerer, 2003).

One potential explanation for human prosociality is that though inherently self-interested, people are capable of exerting self-control, which keeps the self-interested impulse in check and propels them to act prosocially (Curry, Price, & Price, 2008; Martinsson, Myrseth, & Wollbrant, 2012; Piovesan & Wengström, 2009). For instance, Moore and Loewenstein (2004) asserted that to overcome the influence of their self-interest, which is supposedly automatic and unconscious, people often have to engage in a slow and thoughtful process, which then leads to the recognition of their responsibilities

for others. Self-control plays a critical role in this deliberative process in that it enables people to resist the temptation to pursue their self-interest at the expense of others' interests (Martinsson et al., 2012). Building on findings that a lack of self-control can negatively influence task performance and consumer behavior (Baumeister, 2002; Baumeister, Bratslavsky, Muraven, & Tice, 1998), the self-control model of prosociality assumes that prosocial behaviors are largely the outcomes of a battle that is won by a slow and controlled process over impulses to serve our immediate self-interest (DeWall, Baumeister, Gailliot, & Maner, 2008; Martinsson et al., 2012).

However, an emerging body of literature challenges this assumption and instead supports an alternative theory that characterizes prosociality as an intuitive reaction that does not require active self-control (Keltner et al., 2014; Zaki & Mitchell, 2013). For instance, research that examines the link between decision speed and cooperation indicates that quick decisions tend to be more cooperative than slow ones (Duffy & Smith, 2014; Kessler & Meier, 2014; Kieslich & Hilbig, 2014; Kinnunen & Windmann, 2013; Nielsen, Tyran, & Wengström, 2014; Rand, Greene, & Nowak, 2012; Rand et al., 2014). Rand and his colleagues found in a series of studies that individuals who decided quickly in common dilemmas were more cooperative than those who made slow and rational decisions (Rand et al., 2012). For instance, participants in one of the studies played a one-shot public goods game in groups of four. Participants were given 40 cents and asked to indicate how much they would like to contribute to a common pool. Any amount they contributed to the common pool would then be doubled and distributed evenly among the four players in the group, thus giving each of them a chance to free ride. Results showed that individuals who made fast and intuitive decisions contributed more to the common

pool than those who made slow and deliberative decisions (Rand et al., 2012). In addition to this correlational evidence, Rand and his colleagues also established a causal link between intuition and cooperation. Specifically, participants who were forced to make quick and intuitive decisions through time pressure contributed a larger amount of money to the common pool than those who made slow and deliberative decisions (Rand et al., 2012).

Despite some research having failed to replicate Rand and colleagues' (2012) findings (Tinghog et al., 2012; Verkoeijen & Bouwmeester, 2014), research in the past several years has provided empirical support for intuitive prosociality (Cone & Rand, 2014; Duffy & Smith, 2014; Kessler & Meier, 2014; Kieslich & Hilbig, 2014; Kinnunen & Windmann, 2013; Nielsen et al., 2014; Rand & Epstein, 2014; Rand & Kraft-Todd, 2014; Rand, Newman, & Wurzbacher, 2014). Most notably, experimental manipulations that are designed to interfere with a decision maker's ability to engage in deliberation and exert self-control, such as increasing the cognitive load and time pressure, have been shown to result in cooperation and prosocial behaviors (Cappelletti, Goth, & Ploner, 2011; Cornelissen, Dewitte, & Warlop, 2011; Cone & Rand, 2014; Duffy & Smith, 2014; Kessler & Meier, 2014; Kieslich & Hilbig, 2014). Duffy and Smith (2014) found that participants who were in the high cognitive load condition (i.e., given a seven-digit number to recall) defected less toward the end of a multiround prisoner's dilemma game than those in the low cognitive load condition (i.e., given a two-digit number to recall). The authors also found evidence that participants in the low cognitive load condition, who were more able to deliberate on their choice because their cognitive resources were mostly intact, engaged in more strategic decision making (i.e., basing their decisions on

the outcomes of previous rounds) than those in the high cognitive load condition (Duffy & Smith, 2014). This finding suggests that individuals' intuition may be to cooperate with others, but deliberation can override such intuition and instead lead them to make contingent decisions that are noncooperative.

The assertion that intuition can result in prosocial behaviors is also supported by research on the positive effects of disinhibition on prosocial behaviors (Lind & Van den Bos, 2013; Van den Bos & Lind, 2013). Calling into question the assumption that people are inclined to pursue their self-interest, scholars in this line of research make the opposite prediction and find evidence that most people have prosocial preferences (Balliet, Parks, & Joireman, 2009; Van Lange, 1999; Van Lange, Otten, De Bruin, & Joireman, 1997) and are more likely to engage in prosocial behaviors when they do not focus on how others might evaluate them (Van den Bos, Muller, & Damen, 2011; Van den Bos, Muller, & Van Bussel, 2009; Van den Bos et al., 2011). For instance, after being prompted to think of a situation in which they acted without caring about how others might evaluate their actions, participants were both more likely to help another in need (e.g., pick up the pens dropped by the confederate) and quicker to render needed help (e.g., attend to a student who seems to be choking) despite the presence of bystanders who failed to help (Van den Bos et al., 2009). This finding suggests that the bystander effect, which refers to people's failure to help someone in need when other bystanders also do not offer help (Darley & Latane, 1968; Latane & Nida, 1981), may be overcome when disinhibition enables people to follow their intuition to engage in prosocial behaviors.

Together, recent research on cooperation and other prosocial behaviors largely

supports the positive link between intuition and prosociality (Keltner et al., 2014; Zaki & Mitchell, 2013). Instead of being cold and self-interested, as assumed by the self-control model of prosociality, human nature has been demonstrated to be much more tender and prosocial to the point where people are intuitively biased toward prosociality (Keltner et al., 2014). This tendency to be nice, generous, and helpful toward others, even strangers, is likely to have its roots in evolution given the findings in developmental psychology that infants show prosocial preferences and behaviors before their ability for self-control is developed (Hamlin et al., 2007; Warneken & Tomasello, 2006, 2007). In addition, findings in neuroscience that prosocial behaviors are associated less with the brain regions that typically govern reflective and controlled processes (e.g., lateral prefrontal cortex) and more with the regions that are more involved in reflexive and automatic processes (e.g., ventral striatum) lend more support for intuitive prosociality (Zaki & Mitchell, 2013).

In the behavioral ethics literature, recent research has also started to investigate the link between mode of thought and the ethicality of one's decisions. The empirical findings, however, have been inconsistent. Zhong (2011) investigated the effects of deliberation and intuition on ethical decision making. Participants engaged in a one-shot deception game (Gneezy, 2005); they could send a truthful message to their interaction partner (and keep less money for themselves) or lie (and keep more money for themselves). In one study, participants in the deliberation condition solved five math problems to activate a deliberative mindset, whereas those in the intuition condition answered five questions about their feelings to activate an intuitive mindset. In another study, participants in the deliberation condition read instructions that framed their choice

as a decision and were asked to indicate which message they "decided" to send, whereas those in the intuition condition read instructions that framed their choice as an intuitive reaction and were asked to indicate which message they "felt like" sending. Compared to those in the intuition conditions, participants in the deliberation conditions were more likely to lie to their interaction partner and keep more money for themselves (Zhong, 2011).

However, Gunia and colleagues (2012) found opposing evidence regarding the effects of deliberation. In the context of the same one-shot deception game used in Zhong (2011), they manipulated deliberation by instructing the participants to think very carefully about which message to send for 3 minutes. Their findings indicated that compared to the condition in which participants received no instruction prior to making their decisions, fewer participants in the deliberation condition lied to their interaction partner (Gunia et al., 2012). Interestingly, Moore and Tenbrunsel's (2014) work calls these findings into question. They examined the relationship between cognitive complexity, which represents a person's ability to engage in complex reasoning, and the ethicality of one's decisions. Differently from Gunia and colleagues' findings and similarly to Zhong's (2011) findings, they found that high cognitive complexity (i.e., high deliberation) led to more unethical decisions, though they also found that low cognitive complexity (i.e., low deliberation) resulted in more unethical decisions as well. However, it is important to note that Gunia and colleagues and Moore and Tenbrunsel did not study intuition. Therefore, these findings do not speak to the effects of intuition. These mixed results warrant more research on the effects of intuition (and deliberation) on ethical decision making.

Despite the inconsistency in the findings in the behavioral ethics literature, I argue that ethicality, much like prosociality (Haidt, 2011; Rai & Fiske, 2011), is also largely intuitive such that intuition typically leads to ethical outcomes, whereas deliberation tends to result in unethical outcomes. Building on previous work in both moral psychology and behavioral ethics (Bazerman & Gino, 2012; Jones, 1991; Treviño, Weaver, & Reynolds, 2006), I define ethical decisions and behaviors as ones that adhere to widely held societal norms. Based on this definition, lying, cheating, and stealing are all considered unethical. Similar to engaging in prosocial behaviors, such as cooperation, undertaking ethical behaviors may also involve trading one's self-interest for others' interests.

For instance, when people face a situation in which lying enhances their self-interest at the expense of others' interests and telling the truth does the opposite, intuition can help focus their attention on others' interests as opposed to their self-interest. This is because people's concern for others' interests is spontaneous (Keltner et al., 2014; Zaki & Mitchell, 2013), whereas the concern for their self-interest may manifest itself when their intuition is inhibited (Lind & Van den Bos, 2013; Van den Bos & Lind, 2013). Intuition is likely to lead people to automatically and unconsciously follow the path that benefits others' interests, regardless of the consequences for their self-interest. It is entirely plausible that within the split second of intuitive decision making, the concern for self-interest may not even cross people's mind.

Deliberation, on the other hand, can lead to unethical decisions and behaviors at least in part because the deliberative process tends to interfere with the positive influence of intuition by focusing one's attention on one's self-interest (Zhong, 2011). For instance,

one may deliberate and decide that monetary payoff should be the basis for the decision (Zhong, 2011). Monetary payoff, which typically represents one's self-interest, becomes salient because the deliberative process is likely to highlight specific aspects of the decision making context (e.g., participants' identities were completely protected and this interaction was one-shot instead of recurring). In other words, deliberation can interfere with one's intuition to act ethically by making salient situational factors that one could potentially take advantage of to advance one's self-interest.

In summary, converging evidence indicates that intuition tends to result in prosociality, whereas deliberation can hinder it (Keltner et al., 2014; Zaki & Mitchell, 2013). The spontaneous concern for others' interests, which underlies intuitive prosociality, can also lead individuals to behave ethically. On the contrary, deliberation tends to result in unethical outcomes because it can make their self-interest salient. Thus, Hypotheses 1 and 2 are as follows:

1. *Intuitive decisions and behaviors are more ethical than deliberative ones (H1).*
2. *Concern for others' interests mediates the relationship between intuition and the ethicality of one's decisions such that intuition results in the concern for others' interests, which results in ethical decisions (H2).*

Despite the general tendency of intuition to result in ethical decisions and behaviors, it is important to acknowledge that intuition does not lead to ethical decisions and behaviors under all circumstances. For instance, some research in behavioral ethics shows that intuition can result in unethical outcomes (Gunia et al., 2012; Shalvi et al., 2012). Next, I will argue that intuition is less likely to result in ethical decisions and behaviors under the condition of business framing because business framing attenuates

the effect of intuition on the concern for others' interests. Even though framing has been used in the literature to denote both the way in which information about a problem or situation is presented *to* a decision maker (Bazerman, 1994; Butterfield, Treviño, & Weaver, 2000) and the conception of a problem, situation, or decision *by* a decision maker (Tenbrunsel & Messick, 1999; Tversky & Kahneman, 1981), I focus exclusively on the former. Given this focus, I define business framing as the presentation or labeling of a decision making context as primarily related to business.

It has long been established that people make judgments and decisions in part based on how a situation or context is framed (Deutsch, 1958; Ellingsen, Johannesson, Mollerstrom, & Munkhammar, 2012; Engel & Rand, 2014; Kuhberger, 1998; Rai & Fiske, 2011; Tversky & Kahneman, 1981). In a meta-analysis of more than 100 empirical papers, Kuhberger (1998) concluded that the effects of gain-loss framing on decisions are robust: people are risk averse when the outcome of a problem is framed as a gain and risk seeking when the outcome of the identical problem is framed as a loss. In addition to the effects of gain-loss framing, which originates from prospect theory (Kahneman & Tversky, 1979), research in the framing literature indicates that giving a situation or context different labels can influence people's judgments and behaviors (Batson & Moran, 1999; Diener, Dineen, Endresen, Beaman, & Fraser, 1975; Kay & Ross, 2003; Liberman, Samuels, & Ross, 2004; Pillutla & Chen, 1999). For instance, Diener and colleagues (1975) found that participants engaged in more aggressive behaviors when a role-playing exercise was labeled a "game" than when it was called a "test of aggression" (Bandura et al., 1996).

Business framing has been shown to make people more competitive and less

cooperative (Batson & Moran, 1999; Eiser & Bhavnani, 1974; Kay & Ross, 2003; Liberman et al., 2004; Pillutla & Chen, 1999). For instance, Liberman and colleagues (2004) found that participants were more likely to engage in competitive behaviors (i.e., defecting) in a prisoner's dilemma when the game was labeled a "Wall Street Game" as opposed to a "Community Game". Two thirds of the participants playing the "Wall Street Game" defected in the first round of the game, whereas only one third of the participants playing the "Community Game" did so. The same pattern held for the remaining six rounds of the game. This finding is consistent with the results from earlier research. For instance, Pillutla and Chen (1999) found that people competed more in social dilemmas that involved making "economic" versus "non-economic" decisions. Moreover, people engaged in more competitive behaviors in a revised version of the prisoner's dilemma labeled "Business Transaction Study" than in the same game titled "Social Exchange Study" (Batson & Moran, 1999).

The findings that business framing tends to result in competition and hinder cooperation suggest that business is commonly associated with specific norms and expectations, which guide people's perceptions and behaviors in social interactions, such as social dilemmas (Kay & Ross, 2003; Kay, Wheeler, Bargh, & Ross, 2004; Reynolds, Leavitt, & DeCelles, 2010). For instance, Reynolds and colleagues (2010) argued that people typically view business as a generic concept that represents a specific set of principles, which include competition and the maximization of profit. Similarly, Kay and colleagues also identified competition and the pursuit of self-interest as the two most common norms in business and found evidence that exposure to material objects that are associated with business (e.g., briefcases) led to more competitive behaviors in social

dilemmas (Kay et al., 2004). Just as business framing has been shown to elicit competitive behaviors (Batson & Moran, 1999; Eiser & Bhavnani, 1974; Kay & Ross, 2003; Liberman et al., 2004; Pillutla & Chen, 1999) due to the presumed association between business and competition, I argue that it can attenuate the effect of intuition on the concern for others' interests because business is commonly associated with moneymaking and the pursuit of self-interest (Ferraro, Pfeffer, & Sutton, 2005; Kay et al., 2004; Miller, 1999; Reynolds et al., 2010).

As a symbol of the free-market capitalism and a primary goal for business organizations (Caruso, Vohs, Baxter, & Waytz, 2013; Deflem, 2003; Kouchaki, Smith-Crowe, Brief, & Sousa, 2013), money exerts a great deal of influence on people's preferences, judgments, and behaviors (Caruso et al., 2013; Kouchaki et al., 2013; Vohs, Mead, & Goode, 2006, 2008; Yang, Wu, Zhou, Mead, Vohs, & Baumeister, 2013). For instance, when the concept of money is activated (e.g., through a descrambling task), participants are less willing to help another individual, donate less to a university fund, choose an individual-oriented activity (e.g., four personal cooking lessons) over a group-oriented one (e.g., an in-home catered dinner for four), and prefer to sit farther away from another participant (Vohs et al., 2006). In addition, Caruso and colleagues (2012) found that subtle reminders of the concept of money led people to disregard the welfare of the disadvantaged and favor the social systems that perpetuate social inequality. Most relevant to the current research, Kouchaki and colleagues (2013) found that mere exposure to the concept of money activated a business decision frame and resulted in unethical behaviors (e.g., deceiving one's interaction partner in a game). They argued that the pursuit of self-interest over others' interests was motivated by a business decision

frame. This argument is also consistent with Batson and Moran's argument that in business it is typically assumed that people ought to focus on their self-interest as opposed to their responsibility for others because all parties can take care of themselves (Batson & Moran, 1999).

Together, this evidence provides support for a link between business framing and an increased focus on self-interest. Business framing can activate a specific set of norms and expectations, which include moneymaking and the pursuit of self-interest (Batson & Moran, 1999; Kay et al., 2004; Reynolds et al., 2010). Once the pursuit of self-interest becomes salient as a result of business framing, the effect of intuition on the concern for others' interests is attenuated because people are distracted by their self-interest in the split second of intuitive decision making. In other words, people's spontaneous concern for others' interests (Keltner et al., 2014; Zaki & Mitchell, 2013) may be weaker under the circumstance of business framing because people are now also influenced by their self-interest (Ferraro et al., 2005; Miller, 1999). Thus, Hypothesis 3 is as follows:

3. *Business framing moderates the relationship between intuition and the concern for others' interests such that the effect of intuition on the concern for others' interests is weaker under the condition of business framing and is less likely to result in ethical decisions (H3).*

In summary, I argue that intuitive decisions are generally more ethical than deliberative ones because people have a spontaneous concern for others' interests. I further argue that intuition is less likely to result in ethical decisions under business framing because it attenuates the effect of intuition on the concern for others' interests. In the next chapter, I propose a series of studies to test my hypotheses.

CHAPTER 2

RESEARCH METHODOLOGY

In this chapter, I present a series of studies to test my model of intuition and ethical decision making. I recruit participants from both an online participant pool (i.e., Amazon Mechanical Turk) and a participant pool consisting of undergraduate students enrolled in business classes to increase the generalizability of potential findings. The purpose of Studies 1a and 1b is to test the hypothesized main effect of intuition on the ethicality of one's decisions (H1). By using different experimental tasks (i.e., a one-shot deception game and a work-related scenario) in these studies, I intend to increase the generalizability of potential findings. The purpose of Study 2 is to build on Study 1a and test the hypothesized mediating effect of the concern for others' interests on the relationship between intuition and the ethicality of one's decisions (H2). The purpose of Studies 3a and 3b is to test the hypothesized moderating effect of business framing on the relationship between intuition and the concern for others' interests, which potentially affects the ethicality of one's decisions (H3). In Study 3a, I test the hypothesized effect of business framing on the relationship between intuition and the concern for others' interests. This is intended as a test of the first part of the moderated mediation model because the dependent variable in this study is the concern for others' interests, which is the proposed mediator in the overall theoretical model.

In Study 3b, I test the full model specified in Hypothesis 3 with the concern for others' interests measured after the decision. Intuitive decision making is quick, making it difficult to measure the mediator before the dependent variable. In fact, as I argued in the previous section, an intuitive decision is usually made within a split second (see Haidt & Joseph, 2004, for a discussion). This presents a challenge for conducting a mediation analysis because temporal precedence is violated when the proposed mediator (i.e., the concern for others' interests) is measured after the decision. After weighing the pros (i.e., a better chance of capturing the intuitive decision making process) and cons (i.e., a violation of the temporal precedence), I made the decision to follow previous published research (Zhong, 2011) in measuring a proposed mediator after an intuitive decision is made. Measuring the proposed mediator before the decision would likely present a more serious problem because thinking about and then answering the questions about the concern for others' interests may make the decision by definition nonintuitive, or deliberative. This was a difficult methodological decision to make, and I am fully aware of the limitations of this approach.

2.1 Studies 1a and 1b

In Study 1a, I tested Hypothesis 1 using explicit instructions (Dane et al., 2012) to manipulate intuition (vs. deliberation), and I measured the amount of time it took to make intuitive (vs. deliberative) decisions so that I would be able to use the timing data to inform the manipulation of intuition (vs. deliberation) in subsequent studies that use the same experimental task. In Study 1b, I tested Hypothesis 1 using both explicit instructions (Dane et al., 2012) and time pressure (Rand et al., 2012) to manipulate

intuition (vs. deliberation). The combination of two methods was intended to strengthen the manipulation of intuition (vs. deliberation). I also used a different experimental task (i.e., a work-related scenario) to help increase the generalizability of potential findings.

2.1.1 Study 1a

2.1.1.1 Method

An a priori power analysis was performed using GPower 3.1 to estimate the sample size. The following parameters were used in the calculation of sample size: effect size (f) = .25, power = .8, and number of groups = 2. The sample size based on this power analysis was 128. However, I recruited 15% more participants so that I could run the analyses both with and without certain participants (e.g., those who did not pay enough attention). The final sample size was 148. The same strategy was also used in subsequent studies.

One hundred forty-eight adults were recruited through the Amazon Mechanical Turk, an online participant pool (Buhrmester, Kwang, & Gosling, 2011), to participate in this study for 50 cents (plus a bonus based on their decisions in the task). There were 63 women and 85 men, with a mean age of 35.82 (*SD* = 12.66). In terms of ethnicity, the sample was 75% White/European American, 8.8% Asian/Asian American, 7.4% Black/African American, 6.8% Latino/Hispanic, 0.7% Native American, and 1.4% other ethnicities. At the time of the study, 75.7% of the participants were employed. One hundred forty-eight participants (100%) speak English as their native language. One hundred forty-seven participants (99.3%) are from the United States.

Participants were asked to complete a decision making task (see Appendix A),

which involved choosing one of two messages to send to their partner in a one-shot deception game (Gneezy, 2005). Participants were told that they had been randomly paired up with another online participant. In this game, there were two roles: the Message Sender, who would be given the two payoff options and asked to send one of two messages, and the Decision Maker, who would receive a message about the payoff options from the Message Sender and make a payoff decision. Option A stated, "$3 to the Message Sender and $1 to the Decision Maker." Option B stated, "$1 to the Message Sender and $3 to the Decision Maker." Participants were told that they had been randomly assigned to one of the two roles, but they were always assigned to the Message Sender role.

After reading the role instructions, participants were asked to send the Decision Maker a message explaining the two payoff options. They were told that only they had the payoff information and that they could send one of the following two messages. Message 1 stated, "Option A earns you more money than Option B", and Message 2 stated, "Option B earns you more money than Option A". Because Option A was set up such that the participants would earn $3 and the Decision Maker would earn $1, sending Message 1 to the Decision Maker constituted a lie. By lying to the Decision Maker, participants would earn $3 instead of $1.

Before they sent their message to the Decision Maker, participants read different instructions based on the condition to which they were randomly assigned (see Appendix A). In the intuition condition, participants read the following instruction: "Base your decisions entirely on your intuition or first impression, and avoid thinking very hard (Dane et al., 2012)." In the deliberation condition, participants read the following

instruction, “Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise (Dane et al., 2012).” The amount of time participants spent in making their decisions (i.e., how long it took them to send one of the two messages) was recorded. On average, it took participants in the intuition condition 12.6 seconds (*SD* = 10.6) and participants in the deliberation condition 15.0 seconds (*SD* = 10.7) to make their decisions.

The dependent variable was whether participants chose to lie (i.e., send Message 1) to the Decision Maker. After making their decisions, participants answered questions about the task (see Appendix A), other measures (see Appendix B), and demographics questions (see Appendix C). For instance, participants were asked to indicate their levels of agreement with the following three statements: 1) “When deciding which message to send, I expected the Decision Maker to believe me,” 2) “Sending the false message to the Decision Maker is an explicit lie”, and 3) “Sending the false message to the Decision Maker is unethical”. I measured these variables because previous research indicates that they tend to have an impact on participants’ decisions in a one-shot deception game (Gunia et al., 2012; Zhong, 2011) regardless of the experimental condition (i.e., intuition vs. deliberation) and therefore need to be controlled for if they are significantly correlated with participants’ decisions.

Similarly, individual differences including moral identity and the propensity to morally disengage have also been shown to influence individuals’ moral judgment and decision making (Aquino & Reed, 2002; Moore, Detert, Treviño, Baker, & Mayer, 2012) and are therefore measured for exploratory purposes (e.g., to potentially be controlled for in the analyses and to examine their potential moderating roles). In addition, I measured

participants' faith in intuition and need for cognition because previous research suggests people differ in their preferred mode of thought when making decisions (Epstein, Pacini, Denes-Raj, & Heier, 1996). The same strategy for measuring additional variables was also used in subsequent studies except for Study 3c. The scales for these variables are provided in Appendix B. After completing the study, participants were paid consistently with the message that they sent to the Decision Maker (as if the Decision Maker accepted their message as true).

2.1.1.2 Results and Discussion

In the task, I asked the participants to confirm the role to which they were assigned, to indicate how much money they would earn if the decision maker believed them, to report whether they had done the exact decision making task before, to indicate what they thought the purpose of the study was, and to answer two attention check questions so that I could run the analyses both with and without those who did not pay enough attention, had done the exact decision making task before, and/or guessed the purpose of the study. The data indicate that two participants (1.4%) did not select Message Sender as their role in the task, 21 participants (14.2%) did not identify the correct amount of money they would earn in the task, eight participants (5.4%) had done the exact task before, no participants correctly guessed the purpose of the study, seven participants (4.7%) did not answer the first attention-check question correctly, and all participants answered the second attention-check question correctly. Excluding these participants both separately and together did not change the study results, so I report the results for the full sample (n = 148).

I also explored participants' responses to two open-ended questions. The first question was about why participants chose to send the message they did. For those who told the truth, many mentioned that they wanted to be honest and/or fair. For those who lied, many said that they wanted to earn more money for themselves. The second question was to ask whether participants had any comments. Most of the participants did not have any comments. The same strategy was used in all subsequent studies except for Studies 1b and 3c.

As a manipulation check, I first examined whether participants in the intuition (deliberation) condition reported relying on intuition (deliberation) to make their decisions more than those in the deliberation (intuition) condition. On average, participants in the intuition condition ($M_{\text{intuition}} = 4.82$, $SD = 1.72$) agreed with the statement "I used intuition or gut instincts to make my decision" more than those in the deliberation condition ($M_{\text{deliberation}} = 3.56$, $SD = 1.80$), $t(146) = 4.37$, $p = .000$. On average, participants in the deliberation condition ($M_{\text{deliberation}} = 5.13$, $SD = 1.45$) agreed with the statement "I used a careful analysis to make my decision" more than those in the intuition condition ($M_{\text{intuition}} = 4.47$, SD = 1.55), $t(146) = 2.71$, $p = .008$. This suggests the manipulation of intuition and deliberation was effective.

Descriptive statistics and correlations among study variables are listed in Table 1. Forty-three participants (59%) in the intuition condition made an unethical decision; 42 participants (56%) in the deliberation condition made an unethical decision.

To test Hypothesis 1, that intuitive decisions and behaviors are more ethical than deliberative ones, I conducted a binary logistic regression comparing mode of thought (deliberation = 0, intuition = 1) as the independent variable and the ethicality of one's

decision as a dichotomous dependent variable (unethical = 0, ethical = 1). The effect was not statistically significant, Exp(*B*) = .89, *p* = .72. To rule out the possibility that the hypothesized effect was masked by other variables not specified in the theoretical model, I ran the same analysis controlling for the study variables that correlate with the dependent variable (i.e., Age, Employment, Believe, Lie, Unethical, Need for Cognition, and Moral Disengagement). The effect was not statistically significant after controlling for these variables, Exp(*B*) = 1.21, *p* = .64. This suggests that participants in the intuition condition were as likely to lie to their counterpart in the decision making game as those in the deliberation condition. Therefore, H1 was not supported by the data.

To explore the potential moderating effects of individual differences, I also ran four different logistic regressions to examine whether each of the four individual difference variables (i.e., Faith in Intuition, Need for Cognition, Moral Identity, and Moral Disengagement) interacts with mode of thought (i.e., intuition vs. deliberation) to influence the ethicality of one's decisions. None of the interactions were statistically significant, Exp(*B*)s = .78, 1.41, 1.14, and 1.70, and *p*s = .39, .17, .72, and .14, respectively. In the next study, I proposed to test H1 by using a different experimental task (i.e., a work-related scenario). The purpose of this study was to examine whether the hypothesized effect might manifest itself under a different decision making context.

2.1.2 Study 1b

2.1.2.1 Method

An a priori power analysis was performed using GPower 3.1 to estimate the sample size. The following parameters were used in the calculation of sample size: effect

size (*f*) = .25, power = .8, and number of groups = 2. The sample size based on this power analysis was 128. I recruited 15% more participants for the same reason I did in Study 1a. The final sample size was 148.

One hundred forty-eight adults were recruited through the Amazon Mechanical Turk, an online participant pool (Buhrmester et al., 2011), to participate in this study for 1 dollar. There were 58 women and 90 men, with a mean age of 31.76 (*SD* = 8.92). In terms of ethnicity, the sample was 75% White/European American, 9.5% Asian/Asian American, 6.8% Black/African American, 5.4% Latino/Hispanic, 0.7% Native American, and 2.7% other ethnicities. At the time of the study, 81.8% of the participants were employed. One hundred forty-eight participants (100%) speak English as their native language. One hundred forty-six participants (98.6%) are from the United States.

Participants were asked to read a hiring scenario (adapted from Kouchaki et al., 2013), take the perspective of the main character in the scenario, and make a decision (see Appendix D). In this scenario, participants were instructed to assume the role of the managing director of a company, who was responsible for recruiting a new assistant marketing manager. In addition, they were told that toward the end of the interview, the job candidate implied that if hired, he can provide confidential information about the company's main competitor. Next, they were asked to indicate the likelihood that they would hire this job candidate.

Before they made their decisions, participants read different instructions based on the condition (i.e., intuition vs. deliberation) to which they were randomly assigned (see Appendix D). In the intuition condition, participants read the following instruction: "Base your decision entirely on your intuition or first impression, and avoid thinking very hard.

You must make your decision in less than 9 seconds" (Dane et al., 2012; Rand et al., 2012). In the deliberation condition, participants read the following instruction: "Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise. You must wait and think for at least 20 seconds before making your decision". The "next" button appeared on the screen only after 20 seconds had passed (Dane et al., 2012; Rand et al., 2012). Both 9 seconds in the intuition condition and 20 seconds in the deliberation condition were determined based on the timing data that I collected in a small sample (n = 60) through the same online participant pool (i.e., Amazon Mechanical Turk), using the same manipulations of intuition and deliberation as Study 1a. The goal of adding a time pressure element was to strengthen the manipulation of intuition. Using a different experimental task was intended to increase the generalizability of potential findings.

The dependent variable was the likelihood that participants would hire the job candidate. After making their decisions, participants answered questions about the task (see Appendix D), other measures (see Appendix B), and demographics questions (see Appendix C). Like in Study 1a, I measured these variables because of the potential need to control for them in the analyses and to examine their potential moderating roles.

2.1.2.2 Results and Discussion

In the task, I asked the participants to indicate what they thought the purpose of the study was and answer two attention-check questions so that I could run the analyses both with and without those who did not pay enough attention and/or guessed the purpose of the study. The data indicate that no participants guessed the purpose of the study and

nine participants (6.1%) did not answer the first attention-check question correctly, and all participants answered the second attention-check question correctly. Excluding the participants based on the first attention check question did not change the study results, so I report the results for the full sample (n = 148).

As a manipulation check, I first examined whether participants in the intuition (deliberation) condition reported relying on intuition (deliberation) to make their decisions more than those in the deliberation (intuition) condition. On average, participants in the intuition condition ($M_{\text{intuition}}$ = 5.49, SD = 1.46) agreed with the statement "I used intuition or gut instincts to make my decision" more than those in the deliberation condition ($M_{\text{deliberation}}$ = 3.19, SD = 1.93), $t(146) = 8.21$, $p = .000$. On average, participants in the deliberation condition ($M_{\text{deliberation}}$ = 5.73, SD = 1.21) agreed with the statement "I used a careful analysis to make my decision" more than those in the intuition condition ($M_{\text{intuition}}$ = 3.99, SD = 1.80), $t(146) = 6.90$, $p = .000$. This suggests the manipulation of intuition and deliberation was effective.

Descriptive statistics and correlations among study variables are listed in Table 2. To test Hypothesis 1, that intuitive decisions and behaviors are more ethical than deliberative ones, I conducted an independent-samples t-test comparing mode of thought (deliberation = 1, intuition = -1) as the independent variable and the likelihood of making an unethical decision (i.e., hiring the job candidate) as a continuous dependent variable (ranging from 1 = not likely at all to 7 = very likely). There was no statistically significant difference in the likelihood to hire the job candidate between the intuition condition ($M_{\text{intuition}}$ = 3.21, SD = 1.75) and the deliberation condition ($M_{\text{deliberation}}$ = 3.01, SD = 1.57), $t(146) = 0.73$, $p = .47$. To rule out the possibility that the hypothesized effect

was masked by other variables not specified in the theoretical model, I also ran a regression analysis controlling for the variables that correlate with the dependent variable (i.e., Age, Unethical, Need for Cognition, and Moral Disengagement). The effect was not statistically significant, B = -.04, t = -.33, p = .75. This suggests that participants in the intuition condition were as likely to make an unethical decision in a scenario-based setting as those in the deliberation condition. Therefore, H1 was not supported by the data.

As I did in Study 1a for exploratory purposes, I also ran four different regressions to examine whether each of the four individual difference variables (i.e., Faith in Intuition, Need for Cognition, Moral Identity, and Moral Disengagement) interacts with mode of thought (i.e., intuition vs. deliberation) to affect the likelihood to hire the job candidate. The first three interactions were not statistically significant, Bs = .17, -.03, and .21, ts = 1.66, -.32, and 1.31, and ps = .10, .75, and .19, respectively. The interaction of mode of thought and moral disengagement was statistically significant, B = -.25, t = -2.05, p = 0.04, suggesting that those who are low (high) in the propensity to morally disengage were more likely to make an ethical decision when using intuition (deliberation) than when using deliberation (intuition).

Based on research on intuition and prosociality (Rand et al., 2012) and intuition and ethics (Zhong, 2011), I theorized that intuitive decisions are more ethical than deliberative ones (H1). Acknowledging the mixed findings in the literature regarding mode of thought and ethical decision making (Gunia et al., 2012; Moore & Tenbrunsel, 2014), I also predicted that the hypothesized effect of intuition on ethical decision making is likely moderated by framing, which is a contextual variable (H3). This incidental finding is potentially theoretically interesting because it suggests that the relationship

between mode of thought (i.e., intuition vs. deliberation) and the ethicality of one's decisions may depend on an individual difference variable. The inconsistent findings in the literature suggest that the relationship between mode of thought and ethical decision making is likely complex, and this incidental finding potentially offers a new direction in examining this relationship (i.e., theorizing the potential moderating roles of individual differences). So far, I found a moderating effect of the propensity to morally disengage in this study but not in Study 1a, and I test the relationship between mode of thought, the propensity to morally disengage, and the ethicality of one's decisions again in subsequent studies.

2.2 Study 2

As tests of Hypothesis 1, that intuitive decisions are more ethical than deliberative ones, Studies 1a and 1b did not provide empirical support for my prediction. One potential explanation for the nonsignificant results for the hypothesized main effect is that an indirect effect of the independent variable on the dependent variable may exist through a third variable (Collins, Graham, & Flaherty, 1998; Shrout & Bolger, 2002). For instance, MacKinnon and Fairchild (2009) discussed the possibility of a mediating effect masking a main effect of an independent variable on the dependent variable because the sign of the mediating effect may differ from the sign of the direct effect. Drawing on research on prosociality (Keltner et al., 2014; Zaki & Mitchell, 2013), I have argued that intuitive decisions may be more ethical than deliberative ones because people have a spontaneous concern for others' interests. In other words, the concern for others' interests may be the third variable and have a mediating effect in intuitive ethical decision making.

In Study 2, I tested this possibility by using the same experimental task in Study 1a but a different method for manipulating intuition (vs. deliberation). Specifically, I combined both explicit instruction (Dane et al., 2012) and time pressure (Rand et al., 2012) in order to strengthen the manipulation of intuition (vs. deliberation). Furthermore, I tested two possible indirect effects of the concern for self and emotion because previous research had suggested both as potential mediators for a hypothesized relationship between intuition and the ethicality of one's decisions (Zhong, 2011).

2.2.1 Method

An a priori power analysis was performed using GPower 3.1 to estimate the sample size. The following parameters were used in the calculation of sample size: effect size (f) = .25, power = .8, and number of groups = 2. The sample size based on this power analysis was 128. I recruited 15% more participants for the same reason I did in Studies 1a and 1b. The final sample size was 149.

One hundred forty-nine adults were recruited through the Amazon Mechanical Turk, an online participant pool (Buhrmester et al., 2011), to participate in this study for 50 cents (plus a bonus based on their decisions in the task). There were 53 women and 96 men, with a mean age of 33.64 (SD = 9.84). In terms of ethnicity, the sample was 80.5% White/European American, 11.4% Asian/Asian American, 2.7% Black/African American, 4.7% Latino/Hispanic, and 0.7% Native American. At the time of the study, 81.2% of the participants were employed. One hundred forty-six participants (98%) speak English as their native language. One hundred forty-nine participants (100%) are from the United States.

Participants were asked to complete the decision making task used in Study 1a (see Appendix E). Participants were randomly assigned to one of two conditions (i.e., intuition vs. deliberation). In the intuition condition, participants read the following instruction: "Base your decision entirely on your intuition or first impression, and avoid thinking very hard. You must make your decision in less than 12 seconds" (Dane et al., 2012; Rand et al., 2012). In the deliberation condition, participants read the following instruction: "Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise. You must wait and think for at least 15 seconds before making your decision" (see Appendix E). The "next" button appeared on the screen after 15 seconds had passed (Dane et al., 2012; Rand et al., 2012). Both 12 seconds in the intuition condition and 15 seconds in the deliberation condition were determined based on the timing data collected in Study 1a (after excluding one extreme case in the intuition condition).

The dependent variable was whether participants chose to lie (i.e., send Message 1) to the Decision Maker. The proposed mediator, the concern for others' interests, was assessed through the four items that measured their concern for the Decision Maker's interest (see Appendix E). In addition, I used items from previous research (Zhong, 2011) to test whether alternative mechanisms (i.e., emotion and the concern for self) might account for a hypothesized effect of intuition on the ethicality of one's decisions (see Appendix E). Because intuitive decision making is quick, it is difficult to measure the mediator before the dependent variable. Therefore, in this study, I measured the concern for others' interests after the decision of whether to lie to the Decision Maker, which was the dependent variable. As I explained at the beginning of the method section, I made the

decision to follow previously published research (Zhong, 2011) in measuring a proposed mediator after an intuitive decision is made.

After completing the task and the concern for others' interests measure, participants answered questions about the task (see Appendix E), other measures (see Appendix B), and demographics questions (see Appendix C). Like in Study 1a, participants were asked to respond to the following statements: 1) "When deciding which message to send, I expected the Decision Maker to believe me," 2) "Sending the false message to the Decision Maker is an explicit lie", and 3) "Sending the false message to the Decision Maker is unethical". Although controlling for variables like these did not change the results in Study 1a, it made sense to measure them in this study and potentially control for them in the analyses, because previous research shows that these variables tend to significantly correlate with participants' decisions in a one-shot deception game (Gunia et al., 2012; Zhong, 2011) regardless of the experimental condition (i.e., intuition vs. deliberation).

2.2.2 Results and Discussion

In the task, I asked the participants to confirm the role to which they were assigned, to indicate how much money they would earn if the decision maker believed them, to indicate what they thought the purpose of the study was, and to answer three attention-check questions so that I could run the analyses both with and without those who did not pay enough attention and/or guessed the purpose of the study. The data indicate that 6 participants (4%) did not select Message Sender as their role in the task, 17 participants (11.5%) did not identify the correct amount of money they would earn in

the task, no participants guessed the purpose of the study, 5 participants (3.4%) did not answer the first attention check question correctly, 5 participants (3.4%) did not answer the second attention check question correctly, and all participants answered the third attention check question correctly. Excluding these participants both separately and together did not change the study results, so I report the results for the full sample (n = 149).

I also explored participants' responses to an open-ended question about why they chose to send the message they did. Similar to Study 1a, for those who told the truth, many said that they wanted to be honest and/or fair. For those who lied, many reported that they wanted to maximize their own payment.

As a manipulation check, I first examined whether participants in the intuition (deliberation) condition reported relying on intuition (deliberation) to make their decisions more than those in the deliberation (intuition) condition. On average, participants in the intuition condition ($M_{\text{intuition}}$ = 4.82, SD = 1.72) agreed with the statement "I used intuition or gut instincts to make my decision" more than those in the deliberation condition ($M_{\text{deliberation}}$ = 3.56, SD = 1.80), $t(146) = 4.37$, $p = .000$. On average, participants in the deliberation condition ($M_{\text{deliberation}}$ = 5.13, SD = 1.45) agreed with the statement "I used a careful analysis to make my decision" more than those in the intuition condition ($M_{\text{intuition}}$ = 4.47, SD = 1.55), $t(146) = 2.71$, $p = .008$. This suggests the manipulation of intuition and deliberation was effective.

Descriptive statistics and correlations among study variables are listed in Table 3. Forty-four participants (59%) in the intuition condition made an unethical decision; 32 participants (43%) in the deliberation condition made an unethical decision. The concern

for the Decision Maker's interest was assessed through a set of four items (α = .62). The concern for the self was assessed through another set of four items (α = .88).

To test Hypothesis 2, I conducted a mediation analysis using a bootstrapping approach (Preacher & Hayes, 2004). Specifically, employing the bootstrapping method produced a confidence interval (CI) of [-.439, .033] for the indirect effect of mode of thought (i.e., intuition vs. deliberation) on the ethicality of one's decisions through the concern for others' interests. The indirect effect was not statistically significant because the CI includes zero (see Figure 1). Therefore, Hypothesis 2 was not supported.

To explore the potential moderating roles of individual differences, I also ran four different logistic regressions to examine whether each of the four individual difference variables (i.e., Faith in Intuition, Need for Cognition, Moral Identity, and Moral Disengagement) interacts with mode of thought (i.e., intuition vs. deliberation) to affect the ethicality of one's decisions. None of the interactions were statistically significant, Exp(*B*)s = .96, 1.34, 1.68, and .69, and *p*s = .89, .26, .20, and .29, respectively.

Because the concern for others' interests, from a theoretical point of view, is proposed as the mediator of the hypothesized effects of intuition on the ethicality of one's decisions, and, from an empirical point of view, positively correlates with the ethicality of one's decisions, I conducted a binary logistic regression comparing the concern for others' interests as the independent variable and the ethicality of one's decision as a dichotomous dependent variable (unethical = 0, ethical = 1). The effect of the concern for others' interests on the ethicality of one's decisions was statistically significant, Exp(*B*) = 1.88, p = .000. This suggests that for a 1-unit increase in the concern for others' interests, there was a 1.88 times increase in the odds of an ethical decision. Implications of this

incidental yet potentially important finding are discussed in the general discussion section. Additional mediation analyses using the same bootstrapping approach (Preacher & Hayes, 2004) suggest that neither concern for the self nor emotion mediated the relationship between mode of thought and the ethicality of one's decisions.

2.3 Studies 3a, 3b, and 3c

As a test of Hypothesis 2, Study 2 did not provide empirical support for my prediction. One potential explanation for the nonsignificant results for the hypothesized main effect and mediation effect is that the hypothesized relationships between intuition, the concern for others' interests, and the ethicality of one's decisions are complex and dependent upon the specific context in which a decision is made. The inconsistent findings in the literature on intuition and ethical decision making (Gunia et al., 2012; Zhong, 2011) in part reflect this complexity and likely context dependency. Drawing on research on framing, I have argued that framing of the decision making scenario could potentially moderate the hypothesized relationships between intuition, the concern for others' interests, and the ethicality of one's decisions. In Study 3a, I tested this prediction. As mentioned before, intuitive decision making is quick, making it difficult to measure the mediator before the dependent variable (i.e., the decision). Therefore, I conducted Study 3a to examine how intuition and business framing potentially influence the concern for others' interests, which is the proposed mediator in the theoretical model. In Study 3b, I measured the mediator after the dependent variable and tested the full model specified in Hypothesis 3. In Study 3c, I tested the full model in Hypothesis 3 using a different way of manipulating mode of thought and framing.

2.3.1 Study 3a

2.3.1.1 Method

An a priori power analysis was performed using GPower 3.1 to estimate the sample size. The following parameters were used in the calculation of sample size: effect size (*f*) = .25, power = .8, numerator df = 1, and number of groups = 4. The sample size based on this power analysis was 128. I recruited about 15% more participants for the same reason I did in previous studies. The final sample size was 142.

One hundred forty-two undergraduate students enrolled in Management classes at the University of Utah were recruited to participate in this study in exchange for partial course credit (plus a cash payment based on their decisions in the task). There were 48 women and 94 men, with a mean age of 22.61 (*SD* = 3.24). In terms of ethnicity, the sample was 66.2% White/European American, 21.8% Asian/Asian American, 0.7% Black/African American, 5.6% Latino/Hispanic, and 5.6% other ethnicities. At the time of the study, 63.4% of the participants were employed. One hundred and eight participants (76.1%) speak English as their native language. One hundred and seven participants (75.4%) are from the United States.

Participants were asked to complete the decision making task used in Study 1a (see Appendix F). A 2 (mode of thought: intuition vs. deliberation) × 2 (framing: business vs. nonbusiness) between-participants design was used in this study. Participants were randomly assigned to one of four conditions. In the intuition condition, participants read the following instruction: “Base your decision entirely on your intuition or first impression, and avoid thinking very hard” (Dane et al., 2012). In the deliberation condition, participants read the following instruction: “Base your decision on a very

careful analysis and ignore any first impression or gut instinct that might arise" (see Appendix F).

Framing (i.e., business vs. nonbusiness) was manipulated prior to the task (see Appendix F). Participants in the business framing condition read the following instruction: "In this study you will be engaging in a business transaction with another participant currently logged into the system. Please read the instructions carefully to ensure that you understand how this business transaction works." Participants in the nonbusiness condition read the following instruction: "In this study you will be engaging in a social exchange with another participant currently logged into the system. Please read the instructions carefully to ensure that you understand how this social exchange works." Before sending their message to the Decision Maker, participants responded to the four items that measured their concern for the Decision Maker's interest (see Appendix F).

The dependent variable was the concern for others' interests. Participants still chose a message to send to the Decision Maker because their choice would determine how much they got paid when the study was over. After completing the task and the concern for others' interests measure, participants answered questions about the task (see Appendix F), other measures (see Appendix B), and demographics questions (see Appendix C). Like in Studies 1a and 2, participants were asked to indicate the extent to which they thought that the Decision Maker would believe them, sending the false message to the Decision Maker is an explicit lie, and sending the false message to the Decision Maker is unethical. In addition, participants also answered questions about the concern for self and about the role of emotion in the decision making task because previous research had suggested that both might be affected by mode of thought (i.e.,

intuition vs. deliberation) and in turn might influence the ethicality of one's decisions (Zhong, 2011).

2.3.1.2 Results and Discussion

In the task, I asked the participants to confirm the role to which they were assigned, to indicate how much money they would earn if the decision maker believed them, to report whether they had done the exact decision making task before, to report whether they had taken the management class before, to indicate what they thought the purpose of the study was, and to answer two attention check questions so that I could run the analyses both with and without those who did not pay enough attention, had done the exact decision making task before, had taken the management class before, and/or guessed the purpose of the study. The data indicate that 11 participants (7.7%) did not select Message Sender as their role in the task, 14 participants (9.9%) did not identify the correct amount of money they would earn in the task, 10 participants (7.0%) had done the same task before, 48 (33.8%) had taken the management class before, no participants guessed the purpose of the study, 19 participants (13.4%) did not answer the first attention check question correctly, and 25 participants (17.6%) did not answer the second attention check question correctly. Excluding these participants both separately and together did not change the study results, so I report the results for the full sample (n = 142).

I also explored participants' responses to an open-ended question about why they chose to send the message they did. Similar to Studies 1a and 2, for those who told the truth, many said that they wanted to be honest and did not want to lie. For those who lied,

many reported that they wanted to earn more money for themselves.

As a manipulation check, I first examined whether participants in the intuition (deliberation) condition reported relying on intuition (deliberation) to make their decisions more than those in the deliberation (intuition) condition. On average, participants in the intuition condition ($M_{intuition}$ = 5.09, *SD* = 1.28) agreed with the statement "I used intuition or gut instincts to make my decision" more than those in the deliberation condition ($M_{deliberation}$ = 4.46, *SD* = 1.64), *t*(140) = 2.54, *p* = .012. On average, participants in the deliberation condition ($M_{deliberation}$ = 5.46, *SD* = 1.11) agreed with the statement "I used a careful analysis to make my decision" more than those in the intuition condition ($M_{intuition}$ = 4.53, SD = 1.61), *t*(140) = 4.01, *p* = .000. This suggests the manipulation of intuition and deliberation was effective. Next, I examined whether participants in the business framing (nonbusiness framing) condition reported (on a 7-point scale) the decision making task to be a business transaction (social exchange) more than those in the nonbusiness framing (business framing) condition. On average, participants in the business framing condition ($M_{business}$ = 4.92, *SD* = 1.54) did not agree with the statement "The decision making task was a business transaction" more than those in the nonbusiness framing condition ($M_{non\text{-}business}$ = 5.06, *SD* = 1.54), *t*(140) = -.55, *p* = .59. On average, participants in the nonbusiness framing condition ($M_{non\text{-}business}$ = 4.75, *SD* = 1.59) did not agree with the statement "The decision making task was a social exchange" more than those in the business framing condition ($M_{business}$ = 4.66, SD = 1.59), *t*(140) = .32, *p* = .75. This suggests that the manipulation of business and nonbusiness framing was not effective. Therefore, the results of this study need to be interpreted with extreme caution.

Descriptive statistics and correlations among study variables are listed in Table 4. For those in the intuition condition, 22 participants (54%) exposed to a business framing made an unethical decision and 19 participants (65%) exposed to a nonbusiness framing made an unethical decision. For those in the deliberation condition, 12 participants (40%) exposed to a business framing made an unethical decision and 19 participants (45%) exposed to a nonbusiness framing made an unethical decision.

The concern for the Decision Maker's interest was assessed through a set of four items (α = .70). The concern for the self was assessed through another set of four items (α = .79).

As a partial test of Hypothesis 3, that business framing interacts with intuition to influence the concern for others' interests, I conducted a regression analysis with mode of thought (deliberation = 0, intuition = 1) as the independent variable, framing of the decision making context as the moderator (business framing = 0, nonbusiness framing = 1) and the concern for the Decision Maker's interest as a continuous dependent variable. The overall model was not statistically significant, $F(3, 138) = .08$, $p = .97$. The main effect of mode of thought (i.e., intuition vs. deliberation) on the concern for others' interests was not statistically significant, $B = .04$, $F(1, 138) = .08$, $p = .78$. The main effect of framing (i.e., business vs. nonbusiness) on the concern for others' interests was not statistically significant, $B = .01$, $F(1, 138) = .01$, $p = .93$. The interaction also was not statistically significant, $B = -.14$, $t = -.39$, $p = .70$.

To rule out the possibility that the hypothesized effect was masked by other variables not specified in the theoretical model, I also ran the same analysis controlling for the variables that correlate with the dependent variable (i.e., Self, Emotion, Lie, and

Unethical), and the interaction was not statistically significant, B = -.05, t = -.16, p = .88. Thus, there was no evidence in the data that the concern for others' interests was predicted by mode of thought or the framing of the decision making context (see Table 5).

As I did in previous studies for exploratory purposes, I also ran four different regressions to examine whether each of the four individual difference variables (i.e., Faith in Intuition, Need for Cognition, Moral Identity, and Moral Disengagement) interacts with mode of thought (i.e., intuition vs. deliberation) to influence the concern for others' interests. None of the interactions were statistically significant, Bs = .18, .08, -.14, and -.21, ts = .89, .47, -.63, and -1.13, and ps = .38, .64, .53, and .26, respectively.

However, there was a significant, positive correlation between the concern for others' interests and the ethicality of one's decision. Because the results in Study 2 suggest that the concern for others' interests is positively associated with the ethicality of one's decisions, I ran a post hoc analysis exploring this relationship in this study. Consistent with the finding in Study 2, the post hoc analysis suggests that the effect of the concern for others' interests on the ethicality of one's decisions was statistically significant, Exp(B) = 1.58, p = .008. This suggests that for one unit increase in the concern for others' interests, there was a 1.58 times increase in the odds of an ethical decision.

As another exploratory analysis, I also ran regressions in which the concern for self and emotion were the dependent variables, respectively, and mode of thought, framing, and their interaction were the predictors. There was no evidence that the concern for self or emotion was predicted by mode of thought, framing, or their interaction. As a whole, results in Study 3a did not provide empirical support for the prediction that

intuition is less likely to result in the concern for others' interests under business framing, possibly due to the failed manipulation of framing. Because the dependent variable in Study 3a was the concern for others' interests, which was measured before the decision, it remained unclear whether intuition would be less likely to result in ethical decisions under business framing when the concern for others' interests is measured after the decision. Therefore, Study 3b was designed to test this possibility, which also is the full model specified in H3.

2.3.2 Study 3b

2.3.2.1 Method

An a priori power analysis was performed using GPower 3.1 to estimate the sample size. The following parameters were used in the calculation of sample size: effect size (f) = .25, power = .8, numerator df = 1, and number of groups = 4. The sample size based on this power analysis was 128. I recruited about 15% more participants for the same reason I did in previous studies. The final sample size was 141.

One hundred forty-one undergraduate students enrolled in Management classes at the University of Utah were recruited to participate in this study in exchange for partial course credit (plus a cash payment based on their decisions in the task). There were 55 women and 86 men, with a mean age of 23.40 (SD = 4.14). In terms of ethnicity, the sample was 63.1% White/European American, 22.0% Asian/Asian American, 2.8% Black/African American, 5.7% Latino/Hispanic, 0.7% Native American, and 5.7% other ethnicities. At the time of the study, 71.6% of the participants were employed. Ninety-eight participants (69.5%) spoke English as their native language. Ninety-five

participants (67.4%) were from the United States.

Participants were asked to complete the same decision making task used in Study 3a (see Appendix G). A 2 (mode of thought: intuition vs. deliberation) × 2 (framing: business vs. nonbusiness) between-participants design was used in this study. Participants were randomly assigned to one of four conditions. In the intuition condition, participants read the following instruction: "Base your decision entirely on your intuition or first impression, and avoid thinking very hard. You must make your decision in less than 14 seconds" (Dane et al., 2012; Rand et al., 2012). In the deliberation condition, participants read the following instruction: "Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise. You must wait and think for at least 15 seconds before making your decision" (see Appendix G). The "next" button appeared on the screen after 15 seconds had passed (Dane et al., 2012; Rand et al., 2012). Both 14 seconds in the intuition condition and 15 seconds in the deliberation condition were determined based on the timing data collected in Study 1a. The manipulation of business framing (vs. nonbusiness framing) was the same as Study 3a (see Appendix G). In Study 3b, I also tested the full model specified in Hypothesis 3.

After completing the task and the concern for others' interests measure, participants answered questions about the task (see Appendix G), other measures (see Appendix B), and demographics questions (see Appendix C). Like in the previous studies, participants were asked to indicate the extent to which they thought that the Decision Maker would believe them, sending the false message to the Decision Maker is an explicit lie, and sending the false message to the Decision Maker is unethical. These variables were included in the survey because they may affect participants' decisions in

ethical decision making contexts (Gunia et al., 2012; Zhong, 2011) and therefore need to be controlled for if they are significantly correlated with one's decision, which is the dependent variable. I measured individual difference variables to potentially control for them in the analyses and to explore their potential moderating effects.

2.3.2.2 Results and Discussion

In the task, I asked the participants to confirm the role to which they were assigned, to indicate how much money they would earn if the decision maker believed them, to report whether they had done the same decision making task before, to report whether they had taken the management class before, to indicate what they thought the purpose of the study was, and to answer two attention-check questions so that I could run the analyses both with and without those who did not pay enough attention, had done the exact decision making task before, had taken the management class before, and/or guessed the purpose of the study. The data indicate that five participants (3.5%) did not select Message Sender as their role in the task, 13 participants (9.2%) did not identify the correct amount of money they would earn in the task, four participants (2.8%) had done the same task before, 34 participants (24.1%) had taken the management class before, no participants guessed the purpose of the study, 25 participants (17.7%) did not answer the first attention check question correctly, and 20 participants (14.2%) did not answer the second attention check question correctly. Excluding these participants both separately and together did not change the study results, so I report the results for the full sample (n = 141).

I also explored participants' responses to an open-ended question about why they

chose to send the message they did. Similar to Studies 1a, 2, and 3a, for those who told the truth, many said that they sent the truthful message for honesty and/or fairness reasons. For those who lied, many mentioned that they wanted to get more money for themselves.

As a manipulation check, I first examined whether participants in the intuition (deliberation) condition reported relying on intuition (deliberation) to make their decisions more than those in the deliberation (intuition) condition. On average, participants in the intuition condition ($M_{\text{intuition}} = 4.64$, $SD = 1.46$) did not agree with the statement "I used intuition or gut instincts to make my decision" more than those in the deliberation condition ($M_{\text{deliberation}} = 4.21$, $SD = 1.76$), $t(139) = 1.58$, $p = .116$. On average, participants in the deliberation condition ($M_{\text{deliberation}} = 4.97$, $SD = 1.28$) agreed with the statement "I used a careful analysis to make my decision" more than those in the intuition condition ($M_{\text{intuition}} = 4.49$, SD = 1.78), but only marginally, $t(139) = 1.86$, $p = .07$. This suggests the manipulation of intuition and deliberation was not as effective as the previous studies. Because the manipulation of intuition in Study 3b was the same as Studies 2 and 3a, one potential reason for its ineffectiveness is that participants in this study did not pay as much attention to the instruction regarding intuition (vs. deliberation) as those in the previous studies. Next, I examined whether participants in the business framing (nonbusiness framing) condition reported the decision making task to be a business transaction (social exchange) more than those in the nonbusiness framing (business framing) condition. On average, participants in the business framing condition ($M_{\text{business}} = 5.32$, $SD = 1.34$) agreed with the statement "The decision making task was a business transaction" more than those in the nonbusiness framing condition ($M_{\text{non-business}} =$

4.89, *SD* = 1.66), but only marginally, $t(139) = 1.73$, $p = .09$. On average, participants in the nonbusiness framing condition ($M_{\text{non-business}} = 4.50$, *SD* = 1.64) did not agree with the statement "The decision making task was a social exchange" more than those in the business framing condition ($M_{\text{business}} = 4.28$, SD = 1.59), $t(139) = .80$, $p = .42$. This suggests the manipulation of business and nonbusiness framing was not effective. Due to the ineffectiveness of the manipulations of both mode of thought and framing, the results of this study need to be interpreted with extreme caution.

Descriptive statistics and correlations among study variables are listed in Table 6. For those in the intuition condition, 19 participants (51%) exposed to a business framing made an unethical decision and 15 participants (45%) exposed to a nonbusiness framing made an unethical decision. For those in the deliberation condition, 18 participants (53%) exposed to a business framing made an unethical decision and 17 participants (46%) exposed to a nonbusiness framing made an unethical decision. The concern for the Decision Maker's interest was assessed through a set of four items ($\alpha = .63$). The concern for the self was assessed through another set of four items ($\alpha = .76$).

To test Hypothesis 3, I conducted a moderated mediation analysis using a bootstrapping approach (Preacher & Hayes, 2004) comparing mode of thought (deliberation = 0, intuition = 1) as the independent variable, the framing of the decision making context as the moderator (business = 0; nonbusiness = 1), and the decision to behave unethically (i.e., lie in the decision making task) as a dichotomous dependent variable (unethical = 0, ethical = 1). Specifically, employing the bootstrapping method produced a confidence interval (CI) of [-.864, .355] for the moderated mediation. The moderated mediation effect was not statistically significant because the CI includes zero

(see Figure 2). Therefore, H3 was not supported.

To explore the potential moderating effects of individual differences, I also ran four different logistic regressions to examine whether each of the four individual difference variables (i.e., Faith in Intuition, Need for Cognition, Moral Identity, and Moral Disengagement) interacts with mode of thought (i.e., intuition vs. deliberation) to affect the ethicality of one's decisions. None of the interactions were statistically significant, Exp(*B*)s = 1.47, .55, 1.71, and 1.31, and *p*s = .31, .11, .21, and .46, respectively.

However, similar to Studies 2 and 3a, there was a significant, positive correlation between the concern for others' interests and the ethicality of one's decision. I conducted a binary logistic regression comparing the concern for others' interests as the independent variable and the ethicality of one's decision as a dichotomous dependent variable (unethical = 0, ethical = 1). The effect of the concern for others' interests on the ethicality of one's decisions was statistically significant, Exp(*B*) = 2.02, $p = .000$. This suggests that for one unit increase in the concern for others' interests, there was a 2.02 times increase in the odds of an ethical decision. Additional moderated mediation analyses using the same bootstrapping approach (Preacher & Hayes, 2004) suggest that neither concern for the self nor emotion mediated the relationship between mode of thought (i.e., intuition vs. deliberation), framing of the decision making context (i.e., business vs. nonbusiness), and the ethicality of one's decisions.

2.3.3 Study 3c

I conducted another study on Amazon Mechanical Turk to test Hypothesis 3 and rule out the possibility that nonsignificant results in Study 3b were due to the failed manipulations of mode of thought and framing. First, I pilot tested alternative manipulations of both framing and mode of thought to make sure that they work. I pilot tested one alternative way of manipulating business versus nonbusiness framing and four alternative ways to manipulate intuition versus deliberation. I recruited 40 participants on Amazon Mechanical Turk for each of the four combinations for manipulating framing and mode of thought. The variations in these combinations occurred only in the manipulation of mode of thought, as the manipulation of framing was the same across the four pilots (see Appendix H).

Participants were asked to engage in the same decision making task used in Study 3a, but the manipulations of the independent variable and moderator were different (see Appendix H). A 2 (mode of thought: intuition vs. deliberation) × 2 (framing: business vs. nonbusiness) between-participants design was used in this study. Participants were randomly assigned to one of four conditions. Participants in the business framing condition were asked to engage in a hypothetical business transaction with the other party, whereas those in the nonbusiness framing condition were asked to engage in a hypothetical task with the other participant. Pilot data showed that this method for manipulating business versus nonbusiness framing was effective. On a 5-point Likert-type scale, participants in the business framing condition ($M_{\text{business}} = 4.67$, $SD = .48$) agreed that the task they had completed was a business transaction more than those in the nonbusiness framing condition ($M_{\text{non-business}} = 3.90$, $SD = 1.02$), $t(39) = 3.10$, $p = .00$.

Among the four alternative ways of manipulating intuition versus deliberation, one manipulation worked (see Appendix H). Participants in the intuition (deliberation) condition were told that the researchers were interested in how people use intuition (vs. a careful analysis) to make their decisions and were later asked which message their intuition (vs. careful analysis) told them to send. In addition, participants in the deliberation condition were asked to think carefully about which message they would like to send for 3 minutes (the "next" button only appeared after 3 minutes had passed), whereas participants in the intuition condition did not receive this instruction. On a 5-point Likert-type scale, participants in the intuition condition ($M_{\text{intuition}}$ = 3.95, SD = .87) agreed that their choice was based on their intuition or gut instinct more than those in the deliberation condition ($M_{\text{deliberation}}$ = 3.05, SD = 1.36), $t(39) = 2.55$, $p = .02$.

2.3.3.1 Method

After demonstrating the effectiveness of an alternative way of manipulating mode of thought (i.e., intuition vs. deliberation) and framing (i.e., business vs. nonbusiness), I conducted Study 3c to test Hypothesis 3 and rule out the possibility that nonsignificant results in Study 3b were due to the failed manipulations. An a priori power analysis was performed using GPower 3.1 to estimate the sample size. The following parameters were used in the calculation of sample size: effect size (f) = .25, power = .8, and number of groups = 2. The sample size based on this power analysis was 128. I recruited 15% more participants for the same reason I did in previous studies. The final sample size was 148.

One hundred forty-eight adults in the United States were recruited through the Amazon Mechanical Turk, an online participant pool (Buhrmester et al., 2011), to

participate in this study for 50 cents. There were 75 women and 73 men, with a mean age of 36.70 (*SD* = 12.38). In terms of ethnicity, the sample was 76.4% White/European American, 7.4% Asian/Asian American, 5.4% Black/African American, 8.8% Latino/Hispanic, 0.7% Native American, and 1.4% other ethnicities. At the time of the study, 76.4% of the participants were employed. One hundred forty-seven participants (99.3%) spoke English as their native language. One hundred forty-eight participants (100%) were from the United States.

Participants were asked to complete the same hypothetical task used in the previous pilot (i.e., the hypothetical Gneezy task). The manipulations of mode of thought and framing were the same as those used in the previous pilot in which both manipulations worked (see Appendix H).

2.3.3.2 Results and Discussion

In the task, I asked the participants to report whether they had done the same decision making task before, to indicate what they thought the purpose of the study was, and answer an attention-check question so that I could run the analyses both with and without those who did not pay enough attention, had done the exact decision making task before, and/or guessed the purpose of the study. The data indicate that 10 participants (6.8%) had done the same task before, no participants guessed the purpose of the study, and 10 participants (6.8%) did not answer the attention-check question correctly. Excluding these participants both separately and together did not change the study results, so I report the results for the full sample (*n* = 148).

The data showed that the manipulations of mode of thought and framing were

again effective in Study 3c. On a 5-point Likert-type scale, participants in the business framing condition ($M_{business}$ = 4.73, *SD* = .45) agreed that the task they had completed was a business transaction more than those in the nonbusiness framing condition ($M_{non\text{-}business}$ = 3.97, *SD* = 1.13), *t*(146) = 5.34, *p* = .00. On a 5-point Likert-type scale, participants in the intuition condition ($M_{intuition}$ = 4.11, *SD* = .88) agreed that their choice was based on their intuition or gut instinct more than those in the deliberation condition ($M_{deliberation}$ = 2.86, *SD* = 1.38), *t*(146) = 6.55, *p* = .00.

Descriptive statistics and correlations among study variables are listed in Table 7. For those in the intuition condition, 15 participants (42%) exposed to a business framing made an unethical decision and 21 participants (58%) exposed to a nonbusiness framing made an unethical decision. For those in the deliberation condition, 21 participants (55%) exposed to a business framing made an unethical decision and 10 participants (26%) exposed to a nonbusiness framing made an unethical decision.

As I did in Study 3b, I conducted a moderated mediation analysis using a bootstrapping approach (Preacher & Hayes, 2004) comparing mode of thought as the independent variable, the framing of the decision making context as the moderator, and the decision to send the false message in the task as a dichotomous dependent variable. Employing the bootstrapping method produced a confidence interval (CI) of [-1.137, .059] for the moderated mediation. The moderated mediation effect was not statistically significant because the CI includes zero (see Figure 3). Therefore, H3 was not supported.

Similar to Studies 2, 3a, and 3b, there was a significant, positive correlation between the concern for others' interests and the ethicality of one's decision. I conducted a binary logistic regression comparing the concern for others' interests as the independent

variable and the ethicality of one's decision as a dichotomous dependent variable. The effect of the concern for others' interests on the ethicality of one's decisions was statistically significant, Exp(*B*) = 1.77, *p* = .000. This suggests that for a 1-unit increase in the concern for others' interests, there was a 1.77 times increase in the odds of an ethical decision. Additional moderated mediation analyses using the same bootstrapping approach (Preacher & Hayes, 2004) suggest that neither concern for the self nor emotion mediated the relationship between mode of thought, framing of the decision making context, and the ethicality of one's decisions. The results of this study suggest that previous nonsignificant results were less likely due to the ineffective manipulations of mode of thought (i.e., intuition vs. deliberation) and framing (i.e., business vs. nonbusiness) and likely had more to do with theorizing, which I discuss in the next section.

Table 1. Means, Standard Deviations, and Correlations (Study 1a).

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Decision Ethicality	0.43	0.50												
(2) Mode of thought	0.49	0.50	-0.03											
(3) Age	35.82	12.66	0.25**	0.09										
(4) Gender	0.57	0.50	-0.03	-0.08	-0.15									
(5) Ethnicity	1.57	1.13	-0.13	0.02	-0.22**	-0.02								
(6) Employment	0.76	0.43	-0.18*	0.06	-0.04	0.21**	0.09							
(7) Believe	3.51	0.95	-0.22**	0.18*	-0.01	0.03	-0.05	0.04						
(8) Lie	3.93	1.07	0.20*	-0.09	0.09	-0.07	0.09	-0.08	0.09					
(9) Unethical	3.49	1.07	0.31**	-0.04	0.14	-0.17*	0.02	-0.09	0.17*	0.56**				
(10) Faith in Intuition	4.89	1.21	0.05	0.10	0.05	-0.12	0.11	0.03	-0.01	-0.11	0.03			
(11) Need for Cognition	4.85	1.45	0.20*	-0.05	0.06	0.12	0.02	0.14	0.01	0.13	0.11	-0.04		
(12) Moral Identity	5.03	0.92	0.09	-0.03	0.05	-0.15	-0.06	0.15	0.13	0.07	0.19*	0.32**	0.23**	
(13) Moral Disengagement	2.76	1.08	-0.28**	0.05	-0.29**	0.25**	0.07	0.02	0.01	-0.28**	-0.32**	-0.08	-0.25**	-0.31**

Note. n = 148. Decision Ethicality is coded unethical = 0, ethical = 1. Mode of thought is coded deliberation = 0, intuition = 1. Gender is coded female = 0, male = 1. Ethnicity is coded White/European American = 1, Black/African American = 2, Latino/Hispanic = 3, Asian/Asian American = 4, Native American = 5, Other = 6. Employment is coded not employed = 0, employed = 1. Believe = When deciding which message to send, I expected the Decision Maker to believe me (1 = Strongly Disagree; 5 = Strongly Agree). Lie = Sending the false message to the Decision Maker is an explicit lie (1 = Strongly Disagree; 5 = Strongly Agree). Unethical = Sending the false message to the Decision Maker is unethical (1 = Strongly Disagree; 5 = Strongly Agree). Faith in Intuition is a scale of five items (α = .94). Need for Cognition is a scale of five items (α = .90). Moral Identity is a scale of 10 items (α = .84). Moral Disengagement (or Propensity to Morally Disengage Scale) is a scale of 24 items (α = .96).
*p < .05, **p < .01

Table 2. Means, Standard Deviations, and Correlations (Study 1b).

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Likelihood to Hire the Candidate	3.11	1.66										
(2) Mode of Thought	-0.01	1.00	-0.06									
(3) Age	31.76	8.92	-0.27**	-0.11								
(4) Gender	0.61	0.49	0.08	-0.04	0.03							
(5) Ethnicity	1.62	1.24	-0.08	0.06	-0.12	-0.02						
(6) Employment	0.82	0.39	0.00	-0.02	0.07	-0.06	0.01					
(7) Unethical	4.47	0.71	-0.43**	0.01	0.13	-0.11	0.05	-0.05				
(8) Faith in Intuition	4.68	1.39	0.11	-0.18*	0.15	-0.24**	0.00	0.15	0.07			
(9) Need for Cognition	4.57	1.48	-0.17*	-0.05	0.08	0.21*	-0.15	-0.02	0.13	-0.24**		
(10) Moral Identity	4.99	0.84	0.03	-0.04	-0.07	-0.13	-0.14	0.18*	0.34**	0.20*	-0.03	
(11) Moral Disengagement	2.69	1.05	0.43**	-0.22**	-0.15	0.22*	0.09	-0.07	-0.38**	0.06	-0.11	-0.13

Note. $n = 148$. Likelihood to Hire the Job Candidate is measured 1 = Not likely at all; 7 = Very likely. Mode of thought is coded intuition = -1, deliberation = 1. Gender is coded female = 0, male = 1. Ethnicity is coded White/European American = 1, Black/African American = 2, Latino/Hispanic = 3, Asian/Asian American = 4, Native American = 5, Other = 6. Employment is coded not employed = 0, employed = 1. Unethical = Leaking confidential information is unethical (1 = Strongly Disagree; 5 = Strongly Agree). Faith in Intuition is a scale of five items ($\alpha = .94$). Need for Cognition is a scale of five items ($\alpha = .90$). Moral Identity is a scale of 10 items ($\alpha = .78$). Moral Disengagement (or Propensity to Morally Disengage Scale) is a scale of 24 items ($\alpha = .95$).
*$p < .05$, **$p < .01$

Table 3. Means, Standard Deviations, and Correlations (Study 2).

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) Decision Ethicality	0.49	0.50															
(2) Mode of thought	0.50	0.50	-0.17*														
(3) Other	3.73	1.08	0.31**	-0.12													
(4) Self	5.20	1.35	-0.49**	0.11	-0.50**												
(5) Emotion	3.70	1.66	0.11	-0.08	0.18*	0.05											
(6) Age	33.64	9.84	0.09	0.02	0.14	-0.06	-0.01										
(7) Gender	0.64	0.48	-0.03	-0.08	-0.18*	0.04	-0.10	-0.09									
(8) Ethnicity	1.49	1.06	-0.01	0.12	-0.02	-0.19*	0.01	-0.08	-0.01								
(9) Employment	0.81	0.39	-0.25**	0.07	-0.10	0.07	-0.05	-0.00	0.11	0.06							
(10) Believe	3.60	0.94	-0.27**	0.11	-0.02	0.01	-0.01	0.02	0.01	-0.02	0.16						
(11) Lie	4.10	0.90	0.03	-0.08	-0.03	0.04	0.09	0.08	0.18*	-0.23**	-0.06	0.08					
(12) Unethical	3.41	1.06	0.28**	-0.03	0.22**	-0.45**	0.13	0.01	0.02	0.03	-0.11	0.05	0.36**				
(13) Faith in Intuition	4.85	1.13	0.04	0.06	0.15	-0.07	0.07	-0.10	-0.22**	-0.01	0.11	0.07	0.04	-0.01			
(14) Need for Cognition	4.77	1.33	0.06	0.03	-0.08	-0.05	-0.06	-0.00	0.01	0.01	-0.02	-0.03	0.19*	0.13	0.13		
(15) Moral Identity	4.88	0.88	-0.08	0.01	0.15	-0.08	0.11	-0.12	-0.20*	0.05	0.10	0.23**	0.08	0.04	0.39**	0.31**	
(16) Moral Disengagement	2.86	1.02	-0.16	0.09	-0.20*	0.26**	-0.09	-0.14	0.26**	0.11	0.06	-0.04	-0.33**	-0.40**	-0.02	-0.33**	-0.19*

Note. $n = 149$. Decision Ethicality is coded unethical = 0, ethical = 1. Mode of thought is coded deliberation = 0, intuition = 1. Other (or Concern for others' interests) is a scale of four items (see Appendix C). Self (or Concern for self-interest) is a scale of four items (see Appendix C). Emotion = When I was choosing between the two messages, my emotion did not play any role (1 = Strongly Disagree; 5 = Strongly Agree). Gender is coded female = 0, male = 1. Ethnicity is coded White/European American = 1, Black/African American = 2, Latino/Hispanic = 3, Asian/Asian American = 4, Native American = 5, Other = 6. Employment is coded not employed = 0, employed = 1. Believe = When deciding which message to send, I expected the Decision Maker to believe me (1 = Strongly Disagree; 5 = Strongly Agree). Lie = Sending the false message to the Decision Maker is an explicit lie (1 = Strongly Disagree; 5 = Strongly Agree). Unethical = Sending the false message to the Decision Maker is unethical (1 = Strongly Disagree; 5 = Strongly Agree). Faith in Intuition is a scale of five items ($\alpha = .92$). Need for Cognition is a scale of five items ($\alpha = .88$). Moral Identity is a scale of 10 items ($\alpha = .82$). Moral Disengagement (or Propensity to Morally Disengage Scale) is a scale of 24 items ($\alpha = .95$).
*$p < .05$, **$p < .01$

Table 4. Means, Standard Deviations, and Correlations (Study 3a).

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Decision Ethicality	0.49	0.50																
(2) Mode of thought	-0.01	1.00	-0.16															
(3) Framing	0.00	1.00	-0.06	-0.17*														
(4) Other	4.36	1.07	0.23**	0.01	-0.02													
(5) Self	4.95	1.14	-0.30**	0.03	0.07	-0.18*												
(6) Emotion	3.88	1.55	0.00	0.06	-0.01	0.17*	0.02											
(7) Age	22.61	3.24	0.02	0.02	-0.01	0.15	-0.01	0.05										
(8) Gender	0.66	0.48	0.05	0.08	-0.09	-0.00	0.15	-0.04	0.05									
(9) Ethnicity	2.06	1.58	-0.02	0.01	0.05	0.04	0.09	-0.08	0.12	-0.22**								
(10) Employment	0.63	0.48	-0.01	-0.04	0.03	0.06	-0.11	0.07	0.08	-0.05	-0.28**							
(11) Believe	3.43	1.06	-0.12	0.13	-0.03	0.09	-0.17*	0.04	0.11	-0.03	0.13	0.01						
(12) Lie	3.80	1.06	0.14	0.02	-0.15	0.26**	-0.21*	0.13	0.03	-0.02	-0.18	0.16	0.22**					
(13) Unethical	3.72	0.98	0.17*	-0.05	-0.04	0.33**	-0.21*	0.04	0.06	-0.13	-0.07	0.16	0.25**	0.56**				
(14) Faith in Intuition	5.09	0.91	0.01	-0.01	0.22**	0.04	-0.04	-0.10	-0.05	-0.04	-0.14	0.13	0.04	0.02	-0.13			
(15) Need for Cognition	5.03	1.03	0.06	-0.05	-0.02	0.14	-0.03	0.06	0.01	0.14	-0.27**	0.31**	0.06	0.27**	0.07	0.09		
(16) Moral Identity	5.51	0.84	0.14	-0.17*	-0.05	0.07	-0.10	0.08	0.02	-0.10	-0.20*	0.25**	0.07	0.11	0.08	0.11	0.42**	
(17) Moral Disengagement	2.88	1.01	-0.12	0.06	-0.08	-0.15	0.22**	-0.16	-0.02	0.19*	0.23**	-0.36**	-0.18*	-0.31**	-0.38**	-0.10	-0.36**	-0.41**

Note. $n = 142$. Decision Ethicality is coded unethical = 0, ethical = 1. Mode of thought is coded deliberation = -1, intuition = 1. Framing is coded business framing = -1, nonbusiness framing = 1. Other (or Concern for others' interests) is a scale of four items (see Appendix C). Self (or Concern for self-interest) is a scale of four items (see Appendix C). Emotion = When I was choosing between the two messages, my emotion did not play any role (1 = Strongly Disagree; 5 = Strongly Agree). Gender is coded female = 0, male = 1. Ethnicity is coded White/European American = 1, Black/African American = 2, Latino/Hispanic = 3, Asian/Asian American = 4, Native American = 5, Other = 6. Employment is coded not employed = 0, employed = 1. Believe = When deciding which message to send, I expected the Decision Maker to believe me (1 = Strongly Disagree; 5 = Strongly Agree). Lie = Sending the false message to the Decision Maker is an explicit lie (1 = Strongly Disagree; 5 = Strongly Agree). Unethical = Sending the false message to the Decision Maker is unethical (1 = Strongly Disagree; 5 = Strongly Agree). Faith in Intuition is a scale of five items ($\alpha = .81$). Need for Cognition is a scale of five items ($\alpha = .75$). Moral Identity is a scale of 10 items ($\alpha = .84$). Moral Disengagement (or Propensity to Morally Disengage Scale) is a scale of 24 items ($\alpha = .94$).
$^{*}p < .05$, $^{**}p < .01$

Table 5. Regression Analysis Examining Framing as a Moderator (Study 3a).

	Dependent Variable	
Variables	*B*	*t*
Mode of Thought	0.04	0.28
Framing	0.01	0.08
Mode x Framing	-0.14	-0.39
Model R^2	0.002	

Note. Dependent Variable = Concern for Others' Interests. *B* = unstandardized regression coefficient.

Table 6. Means, Standard Deviations, and Correlations (Study 3b).

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) Decision Ethicality	0.51	0.50																
(2) Mode of thought	0.50	0.50	0.01															
(3) Framing	0.50	0.50	0.06	-0.05														
(4) Other	4.19	1.17	0.36**	0.10	-0.06													
(5) Self	4.90	1.28	-0.50**	0.01	-0.07	-0.23**												
(6) Emotion	4.09	1.70	0.04	0.00	0.16	0.11	-0.03											
(7) Age	23.40	4.14	-0.00	0.08	0.13	-0.06	0.10	0.02										
(8) Gender	0.61	0.49	-0.03	0.04	0.07	-0.15	-0.06	-0.07	0.12									
(9) Ethnicity	2.11	1.60	-0.14	0.05	-0.13	0.12	0.07	-0.02	-0.03	-0.18*								
(10) Employment	0.72	0.45	-0.05	0.03	0.06	-0.03	-0.08	0.08	0.04	0.14	-0.29**							
(11) Believe	3.52	1.05	-0.15	-0.02	-0.11	-0.04	0.06	0.02	-0.11	-0.10	0.10	-0.02						
(12) Lie	3.79	1.05	0.16	0.05	-0.01	0.13	-0.27**	0.11	-0.11	-0.10	-0.16	0.19*	0.14					
(13) Unethical	3.64	1.02	0.17*	0.07	0.00	0.31**	-0.19*	0.15	-0.07	-0.16	0.04	0.15	0.16	0.60**				
(14) Faith in Intuition	4.96	0.93	-0.01	0.07	-0.07	0.02	0.04	-0.06	-0.16	0.01	-0.13	0.13	0.02	0.03	0.02			
(15) Need for Cognition	4.96	0.94	0.06	-0.05	0.19*	-0.01	-0.07	0.08	0.27**	0.12	-0.34**	0.24**	-0.04	0.14	0.13	-0.10		
(16) Moral Identity	5.56	0.81	0.07	0.03	0.05	0.03	-0.02	0.08	-0.06	-0.05	-0.34**	0.32**	0.00	0.11	0.15	0.36**	0.18*	
(17) Moral Disengagement	2.78	0.96	-0.09	0.10	0.02	-0.03	0.08	-0.12	-0.11	0.14	0.36**	-0.28**	-0.01	-0.24**	-0.27**	0.02	-0.34**	-0.47**

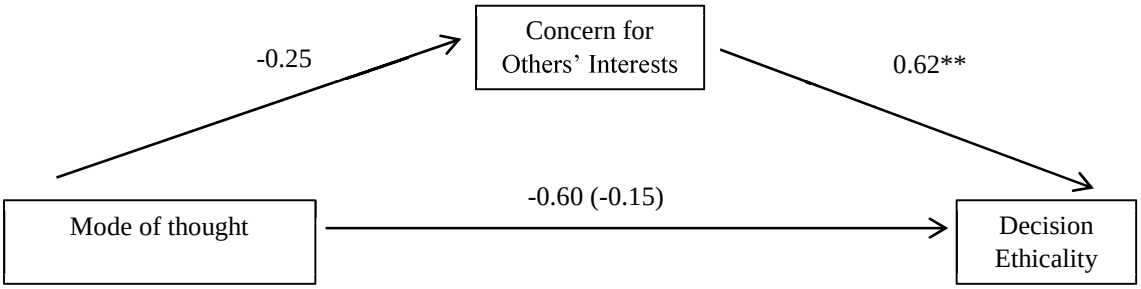
Note. $n = 141$. Decision Ethicality is coded unethical = 0, ethical = 1. Mode of thought is coded deliberation = 0, intuition = 1. Framing is coded business framing = 0, nonbusiness framing = 1. Other (or Concern for others' interests) is a scale of four items (see Appendix C). Self (or Concern for self-interest) is a scale of four items (see Appendix C). Emotion = When I was choosing between the two messages, my emotion did not play any role (1 = Strongly Disagree; 5 = Strongly Agree). Gender is coded female = 0, male = 1. Ethnicity is coded White/European American = 1, Black/African American = 2, Latino/Hispanic = 3, Asian/Asian American = 4, Native American = 5, Other = 6. Employment is coded not employed = 0, employed = 1. Believe = When deciding which message to send, I expected the Decision Maker to believe me (1 = Strongly Disagree; 5 = Strongly Agree). Lie = Sending the false message to the Decision Maker is an explicit lie (1 = Strongly Disagree; 5 = Strongly Agree). Unethical = Sending the false message to the Decision Maker is unethical (1 = Strongly Disagree; 5 = Strongly Agree). Faith in Intuition is a scale of five items ($\alpha = .80$). Need for Cognition is a scale of five items ($\alpha = .70$). Moral Identity is a scale of 10 items ($\alpha = .83$). Moral Disengagement (or Propensity to Morally Disengage Scale) is a scale of 24 items ($\alpha = .93$).
$^{*}p < .05$, $^{**}p < .01$

Table 7. Means, Standard Deviations, and Correlations (Study 3c).

	M	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Decision Ethicality	0.55	0.50											
(2) Mode of thought	0.49	0.50	-0.09										
(3) Framing	0.50	0.50	0.07	0.00									
(4) Other	3.76	1.39	0.35**	0.11	0.06								
(5) Self	5.08	1.43	-0.49**	-0.01	0.01	-0.41**							
(6) Emotion	3.89	1.88	-0.09	0.19*	-0.08	0.09	0.09						
(7) Age	36.70	12.38	0.06	-0.02	-0.06	0.01	-0.12	-0.05					
(8) Gender	0.49	0.50	-0.03	0.04	0.10	-0.19*	0.10	-0.09	0.04				
(9) Ethnicity	1.55	1.11	-0.16*	0.11	0.08	-0.11	0.24**	-0.10	0.18*	0.14			
(10) Employment	0.76	0.43	0.01	0.00	0.06	-0.11	-0.02	-0.01	0.08	0.17*	0.02		
(11) Lie	4.18	0.93	0.10	-0.07	-0.07	0.04	-0.17*	0.05	0.11	-0.09	-0.19*	0.05	
(12) Unethical	3.82	1.05	0.24**	-0.02	-0.02	0.29**	-0.41*	0.12	0.08	-0.06	-0.19*	-0.02	0.58**

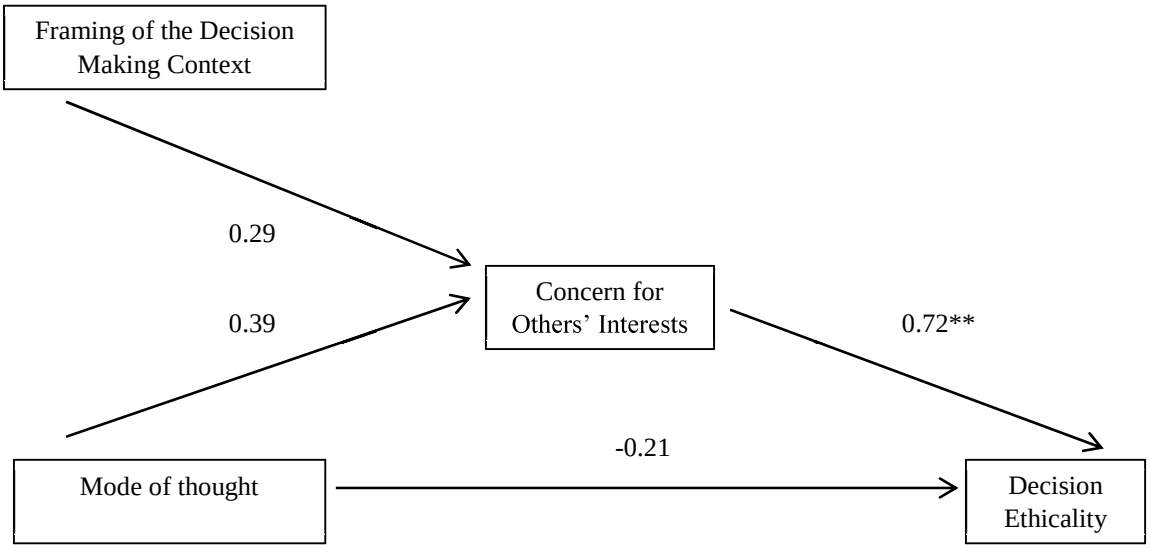
Note. $n = 141$. Decision Ethicality is coded unethical = 0, ethical = 1. Mode of thought is coded deliberation = 0, intuition = 1. Framing is coded business framing = 0, nonbusiness framing = 1. Other (or Concern for others' interests) is a scale of four items (see Appendix C). Self (or Concern for self-interest) is a scale of four items (see Appendix C). Emotion = When I was choosing between the two messages, my emotion did not play any role (1 = Strongly Disagree; 5 = Strongly Agree). Gender is coded female = 0, male = 1. Ethnicity is coded White/European American = 1, Black/African American = 2, Latino/Hispanic = 3, Asian/Asian American = 4, Native American = 5, Other = 6. Employment is coded not employed = 0, employed = 1. Lie = Sending the false message to the Decision Maker is an explicit lie (1 = Strongly Disagree; 5 = Strongly Agree). Unethical = Sending the false message to the Decision Maker is unethical (1 = Strongly Disagree; 5 = Strongly Agree)

*$p < .05$, **$p < .0$



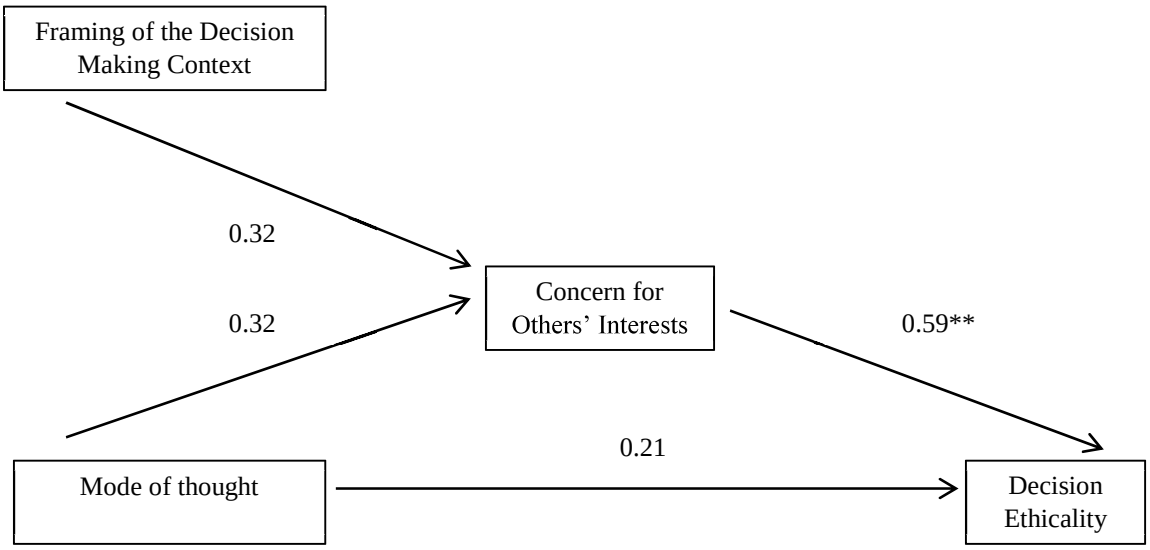
Note. *N* = 149. All values are unstandardized regression coefficients. The value in parentheses represents the coefficient before the mediator was included in the model.

Figure 1. The Mediation Model (Study 2).



Note. *N* = 141. All values are unstandardized regression coefficients.

Figure 2. The Moderated Mediation Model (Study 3b).



Note. N = 148. All values are unstandardized regression coefficients.

Figure 3. The Moderated Mediation Model (Study 3c).

CHAPTER 3

GENERAL DISCUSSION AND CONCLUSION

As a mode of thought and information processing strategy, intuition plays an important role in problem solving and decision making (Betsch, 2008; Dane & Pratt, 2007). Drawing on research on prosociality and framing, I hypothesized that intuitive decisions were generally more ethical than deliberative ones because people have a spontaneous concern for others' interests, and that intuition is less likely to result in ethical decisions under the condition of business framing because business framing attenuates the effect of intuition on the concern for others' interests. Across five studies, I examined the relationships among mode of thought (i.e., intuition vs. deliberation), framing of the decision making context (i.e., business vs. nonbusiness), the concern for others' interests, and the ethicality of one's decisions. Results across the studies did not provide empirical support for the hypotheses.

To better understand the relationship between intuition and ethical decision making, it is important to acknowledge the limitations of the research presented here and point out directions for future research that may yield more conclusive findings. First, as demonstrated in both prior and current research, it is methodologically challenging to study intuition due to the quickness with which it influences decision making. An intuitive decision is usually made within a small amount of time, arguably a second or

two (Haidt & Joseph, 2004). Any additional time in a decision making process could be used to analyze and even override the intuitive decision already made. This means that the decision of whether or not to lie in the task may have already changed by the time participants in the intuition condition submit their decisions. This methodological challenge is unlikely to be solved easily under the current survey research paradigm. More interdisciplinary research is needed in the future in which research on intuition and ethical decision making may be incorporated in imaging (e.g., MRI) studies in order to pinpoint an intuitive decision as it is being made.

Second, in terms of theorizing, this research was conducted to test a specific theoretical model that did not incorporate other potentially relevant variables, both individual and contextual, due to its limited scope. The nonsignificant results across the studies suggest that it is useful to consider the possibility that the relationship between intuition and ethical decision making may depend upon individual and contextual factors other than the proposed moderator in this research (i.e., framing). Future research should examine the potential effects of intuition on ethical decision making by incorporating additional individual and contextual variables in the theoretical model and empirically testing the relationships among these variables.

The concern for others' interests was theorized to be the underlying mechanism in the hypothesized relationship between intuition and the ethicality of one's decisions and empirically demonstrated to be positively associated with the ethicality of one's decisions. Specifically, data across three originally proposed studies and Study 3c suggest that the concern for others' interests is positively associated with ethical decisions. In Study 2, I found that for a 1-unit increase in the concern for others' interests, there was a 1.88 times

increase in the odds of an ethical decision (i.e., telling the truth in a decision making task). In Study 3a, a post hoc analysis suggested that for a 1-unit increase in the concern for others' interests, there was a 1.58 times increase in the odds of an ethical decision. In Study 3b, I found that for a 1-unit increase in the concern for others' interests, there was a 2.02 times increase in the odds of an ethical decision. In Study 3c, I found that for a 1-unit increase in the concern for others' interests, there was a 1.77 times increase in the odds of an ethical decision. The incidental yet converging evidence suggests that individuals' decisions are more ethical when their concern for others' interests is high than when it is low. Because of this incidental finding, a potential direction for future research could focus on identifying the antecedents of the concern for others' interests, which is conceptualized in this theoretical model as a state variable in the process of ethical decision making, in order to examine whether they interact with intuition to affect the ethicality of one's decisions.

One possible antecedent of the concern for others' interests is the disposition toward the consideration of others' needs and interests, which is a trait variable and an integral part of moral character (Cohen & Morse, 2014; Cohen, Panter, Turan, Morse, & Kim, 2014). Conceptualized as an individual difference, the concern for others can motivate decision makers to potentially take others' interests into consideration when making decisions and, as a consequence, behave ethically (Cohen & Morse, 2014). This perspective is consistent with the virtue theories of ethics, in which virtues are often seen as traits and characteristics of an individual that can potentially increase his or her sensitivity to the moral aspects of a situation, such as the well-being of others (Haidt & Joseph, 2004). In other words, individuals with virtues are predisposed to taking others'

interests into consideration when they make decisions with ethical implications.

Related to the idea of examining how individual differences might influence intuitive (vs. deliberative) ethical decision making, I explored the potential moderating effects of individual differences, including the propensity to morally disengage, in the first five studies. Past research shows that individuals differ in their propensity to morally disengage or the degree to which morally relevant decisions are cognitively processed in a manner that allows individuals to behave unethically without experiencing distress (Moore et al., 2012). In Study 1b, in which participants responded to a hiring scenario, I found that individuals who are low (high) in the propensity to morally disengage were more likely to make an ethical decision when using intuition (deliberation) than when using deliberation (intuition). This incidental finding suggests that the relationship between mode of thought (i.e., intuition vs. deliberation) and the ethicality of one's decisions may depend on an individual difference variable. However, the fact that this effect was not found in the other studies in which participants completed the Gneezy task as opposed to the hiring scenario suggests that this effect may depend on the task/type of decision or that other individual differences may play a more important role in intuitive (vs. deliberative) decision making.

For instance, as the motivational element of moral character (Cohen & Morse, 2014), the concern for others' interests is different from individual differences such as the propensity to morally disengage in that it specifically reflects one's sensitivity to the well-being of others when making decisions. Future research could examine whether intuition influences people with different levels of moral character differently in the context of ethical decision making. It is possible that intuition may lead individuals with

a high level of moral character to make ethical decisions because they are predisposed to consider the well-being of others when making decisions (Cohen & Morse, 2014), whereas deliberation might potentially benefit those with a low level of moral character in ethical decision making because a slow reasoning process could potentially render the moral aspects of the decision making context more salient to them. Theoretically speaking, both intuition for those with a high level of moral character and deliberation for those with a low level of moral character could potentially lead to the concern for others' interests, which is conceptualized as a state variable in the ethical decision making process and in turn could result in ethical decisions.

Another possible antecedent of the concern for others' interests is ethical climate, which refers to the prevailing perceptions of what constitutes ethical practices and procedures at work (Treviño, den Nieuwenboer, & Kish-Gephart, 2014; Victor & Cullen, 1988). In reviewing the literature on unethical behavior at work and its antecedents, Treviño and colleagues (2014) found that whereas a self-interested or egoistic climate is positively associated with the consideration of self-interest and an unethical choice, a caring or principled climate is positively associated with the concern for others and an ethical choice (Kish-Gephart, Harrison, & Treviño, 2010; Martin & Cullen, 2006; Simha & Cullen, 2012). Future research can examine whether intuition may potentially influence people who are in different types of climate (e.g., self-interested vs. principled) differently in the context of ethical decision making. It is possible that individuals in a principled climate may intuitively make ethical decisions because an emphasis on ethical principles in the environment may render an ethical choice a default for them, whereas those in a self-interested climate could potentially benefit from a deliberative process in

ethical decision making because it might help them overcome their default, which might be the opposite (i.e., an unethical choice) in this case, given the emphasis on self-interest in the environment.

In sum, the nonsignificant results in the current research regarding the role of intuition in ethical decision making suggest that it is most likely the case, based on the inconsistent findings in the literatures on intuition and ethical decision making, that the relationship between intuition and decision ethicality is inherently complex. Future research should take this complexity into consideration and design and test more nuanced theoretical models. For instance, the significant, positive association between the concern for others' interests and the ethicality of one's decisions established in this research suggests that future research could focus on identifying the antecedents of the concern for others' interests (e.g., moral character, ethical climate) and examining whether they interact with intuition to affect the ethicality of one's decisions. If they do, it could explain why the hypothesized effects of intuition on ethical decision making did not receive empirical support in the studies reported here, namely, that the hypothesized main effects of intuition may have been suppressed by potential crossover interactions between intuition and the antecedents of the concern for others' interests (e.g., moral character, ethical climate).

Intuition plays an indispensable role in problem solving and decision making for individuals, organizations, and societies alike. In the ethical realm, intuition can lead people to behave ethically, but very little is known about when intuition leads to ethical outcomes and why. With this dissertation, I intended to contribute to a better understanding of the influence of intuition on ethical decision making. In five studies, I

tested a theoretical model in which the concern for others' interests is hypothesized to mediate the relationship between intuition and the ethicality of one's decisions and the framing of the decision making context is hypothesized to moderate it. Data across these studies did not provide empirical support for my hypotheses. Incidentally, I found consistent empirical evidence across three originally proposed studies and an additional study that the concern for others' interests is positively associated with ethical decisions. Given the inconsistent findings regarding the role of intuition in ethical decision making in the literature (Gunia et al., 2012; Zhong, 2011) and the nonsignificant results in the studies reported here, it remains unclear when intuition leads to ethical outcomes and why. Future research needs to build on the incidental yet potentially important finding regarding the positive role of the concern for others' interests in ethical decision making and test more nuanced theoretical models of intuition and ethical decision making.

APPENDIX A

STUDY 1A MATERIALS

Here the study materials are presented as participants saw them. The lines indicate page breaks in the online survey. After reading the consent cover letter, participants engaged in the decision making task.

Please complete the following decision making task. Read the instructions carefully to ensure that you understand how the task works.

You will be given the opportunity to receive extra money based on the decisions that you and another randomly assigned participant will make in this task. You will be randomly, and virtually, paired with another participant.

No one will ever know the identity of the person with whom he or she is matched.

One of you will be assigned the role of "message sender," and one of you will be assigned the role of "decision maker." Please continue to be randomly assigned to a role.

Please be patient while the computer system randomly assigns you to a role…

This may take a few seconds…

Please stay on this page until you are assigned to a role; DO NOT REFRESH THIS PAGE.

You have been assigned to the role of "**message sender**." The other participant has been assigned to the role of "decision maker."

There are two possible monetary payments available in this task:

Option A: $3 to the “message sender” and $1 to the “decision maker”
Option B: $1 to the “message sender” and $3 to the “decision maker”

First, the “message sender” (you) will choose between one of two messages (which will be provided to you later) to send to the “decision maker.”

The “decision maker” will then make a choice between option A and option B. However, the “decision maker” will not know what the actual payments are for each option; the only information the “decision maker” will have is the message sent by you, the “message sender.”

Again, the “decision maker” will not know the monetary payments associated with each choice. Only you, the “message sender,” will ever see the monetary payment options.

Now please confirm which role has been assigned to you:
a) “message sender”
b) “decision maker”

The table below displays the payment options. Remember, only the Message Sender (you) will be able to see what the actual payment options are. The Decision Maker will simply be asked to select Option A or Option B after receiving your message. The option they select will determine your own payment.

Payment Options	Option A	Option B
“Message Sender” (you) will receive...	$3	$1
“Decision Maker” will receive...	$1	$3

Here are the possible messages that you as the “message sender” can send to the “decision maker”.

Message 1: Option A earns you (the “decision maker”) more than Option B.
Message 2: Option B earns you (the “decision maker”) more than Option A.

Keep in mind that you will receive the money at the end of the session.

At this point participants in the intuition and deliberation conditions were given different instructions and then they chose which message to send. This decision was the dependent variable.

Intuition Condition

Which message would you like to send to the "decision maker"?

Base your decision entirely on your intuition or first impression, and avoid thinking very hard.

Message 1: "Option A earns you (the "decision maker") more than Option B."
Message 2: "Option B earns you (the "decision maker") more than Option A."

Deliberation Condition

Which message would you like to send to the "decision maker"?

Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise.

Message 1: "Option A earns you (the "decision maker") more than Option B."
Message 2: "Option B earns you (the "decision maker") more than Option A."

Thank you. Your message will be delivered to the "decision maker." You will be paid at the end of the session.

After completing the task, participants saw this message: "Thank you. Your message has been delivered to the 'decision maker.' You will be paid at the end of the session. Please answer the following questions before we communicate to you the outcome for you." The second item served as a manipulation check.

Why did you choose to send the message you did to the "decision maker"? (Gunia et al., 2012)

Please rate the extent to which you agree with the following statements.

a) I used intuition or gut instincts to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

b) I used a careful analysis to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

How much will you earn if the "decision maker" believes your message? This is the option you told the "decision maker" would earn him or her more money.

a) $1

b) $3

When deciding which message to send, I expected the Decision Maker to believe me. (Gunia et al., 2012)

1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the "decision maker" is an explicit lie (Zhong, 2011).

1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the "decision maker" is unethical.

1 = Strongly Disagree; 5 = Strongly Agree

Next, they were told that "the system is processing participant choices to communicate final outcomes. Please wait." Afterward, they were told that they would receive either $1 or $3 according to the message they chose to send. They were asked to indicate their MTurk ID in order to receive the payment. Next, they were told "please proceed to the next page to answer some questions."

They then completed the following scales: ***faith in intuition*** *(Epstein et al., 1996),* ***need for cognition*** *(Epstein et al., 1996),* ***propensity to morally disengage*** *(Moore et al., 2012), and* ***moral identity*** *(Aquino & Reed, 2002). The first attention check question was imbedded within the items for moral identity. See Appendix C for the items.*

Next, participants were asked the following questions:

Have you done this exact decision making task before?

What do you think this study is about? If you don't know, feel free to say "I don't know."

Any comments?

Finally, participants were told that "Thank you. You are almost finished. Please answer the demographic questions that follow, and your study session will then be over." They answered demographics questions, one of which was the second attention check question (see Appendix D) and were shown a debriefing document.

APPENDIX B

OTHER MEASURES

Faith in Intuition (Epstein et al., 1996)

The following items are measured on a 7-point Likert scale ranging from *strongly disagree = 1* to *strongly agree = 7*.

1. I trust my initial feelings about people.
2. I believe in trusting my hunches.
3. My initial impressions of people are almost always right.
4. When it comes to trusting people, I can usually rely on my "gut feelings."
5. I can usually feel when a person is right or wrong even if I can't explain how I know.

Moral Identity (Aquino & Reed, 2002)

The following items are measured on a 5-point Likert scale ranging from *strongly disagree = 1* to *strongly agree = 5*.
Listed below are some characteristics that may describe a person:

Caring
Compassionate
Fair
Friendly
Generous
Helpful
Hardworking
Honest
Kind

The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this person would be like, answer the following questions:

1. It would make me feel good to be a person who has these characteristics.
2. Being someone who has these characteristics is an important part of who I am.

3. I often wear clothes that identify me as having these characteristics.
4. I would be ashamed to be a person who had these characteristics. (R)
5. The types of things I do in my spare time (e.g., hobbies) clearly identify me as having these characteristics.
6. The kinds of books and magazines that I read identify me as having these characteristics.
7. Having these characteristics is not really important to me. (R)
8. The fact that I have these characteristics is communicated to others by my membership in certain organizations.
9. I am actively involved in activities that communicate to others that I have these characteristics.
10. I strongly desire to have these characteristics.
11. *As an attention check, please answer this question with "Somewhat disagree."*

Need for Cognition (Epstein et al., 1996)

The following items are measured on a 7-point Likert scale ranging from *strongly disagree = 1* to *strongly agree = 7*.

1. I don't like to have to do a lot of thinking. (R)
2. I try to avoid situations that require thinking in depth about something. (R)
3. I prefer to do something that challenges my thinking abilities rather than something that requires little thought.
4. I prefer complex to simple problems.
5. Thinking hard and for a long time about something gives me little satisfaction. (R)

Propensity to Morally Disengage Scale (Moore et al., 2012)

The following items are measured on a 7-point Likert scale ranging from *strongly disagree = 1* to *strongly agree = 7*.

1. It is okay to spread rumors to defend those you care about.
2. It is alright to lie to keep your friends out of trouble.
3. Playing dirty is sometimes necessary in order to achieve noble ends.
4. Taking something without the owner's permission is okay as long as you're just borrowing it.
5. It's okay to gloss over certain facts to make your point.
6. When you're negotiating for something you want, not telling the whole story is just part of the game.
7. Considering the ways people grossly misrepresent themselves, it's hardly a sin to inflate your own credentials a bit.
8. Compared to other illegal things people do, taking something small from a store without paying for it isn't worth worrying about.
9. Damaging property is no big deal when you consider that others are assaulting people.
10. People shouldn't be held accountable for doing questionable things when they

were just doing what an authority figure told them to do.
11. People cannot be blamed for misbehaving if their friends pressured them to do it.
12. You can't blame people for breaking the rules if that's what they were taught to do by their leaders.
13. People can't be blamed for doing things that are technically wrong when all their friends are doing it too.
14. It's okay to tell a lie if the group agrees that it's the best way to handle the situation.
15. In contexts where everyone cheats, there's no reason not to.
16. Taking personal credit for ideas that were not your own is no big deal.
17. Walking away from a store with some extra change doesn't cause any harm.
18. It is OK to tell small lies when negotiating because no one gets hurt.
19. Some people have to be treated roughly because they lack feelings that can be hurt.
20. It's okay to treat badly somebody who behaves like scum.
21. Violent criminals don't deserve to be treated like normal human beings.
22. People who get mistreated have usually done something to bring it on themselves.
23. If a business makes a billing mistake in your favor, it's okay not to tell them about it because it was their fault.
24. If people have their privacy violated, it's probably because they have not taken adequate precautions to protect it.

APPENDIX C

DEMOGRAPHICS

1. Are you currently employed?
    a. Yes
    b. No

2. What is your gender?
    a. Male
    b. Female

3. What is your age? _____

4. *This is an attention check question. To demonstrate that you are paying attention and reading carefully, please enter the number '7' in the box below (included only in Studies 1a, 1b, and 2).*

5. What is your ethnicity?
    a. White/European American
    b. Black/African American
    c. Latino/Hispanic
    d. Asian/Asian American
    e. Native American
    f. Other (please specify): _____

6. Is English your native language?
    a. Yes
    b. No

7. Which country are you from?
    a. United States
    b. Other (please specify): _____

APPENDIX D

STUDY 1B MATERIALS

Here the study materials are presented as participants saw them. The lines indicate page breaks in the online survey. After reading the consent cover letter, participants engaged in the hiring decision task.

Please read through the following scenario and make a decision on the next page.

You were appointed as managing director in your company two months ago. You are responsible for recruiting new hires. The time has come to recruit a new assistant marketing manager. As a general rule, assistant managers need to be responsible, confident in their skills, and have prior experience.

During the recruitment procedure, you received a number of satisfactory job applications. You are interviewing a candidate who appears to be qualified for the job. When the interview is finished, you still have a few minutes left and you ask the candidate what he can do for your company that someone else cannot. In response, the candidate implies that if you hire him he would provide your company with confidential information on your main competitor.

At this point participants in the intuition and deliberation conditions were given different instructions and then they indicated the likelihood that they would hire the candidate. The likelihood that they would hire the candidate for the job was the dependent variable.

Intuition Condition

How likely would you be to hire this candidate for the job?

Base your decision entirely on your intuition or first impression, and avoid thinking very hard. You must make your decision in less than 9 seconds.

1 = Not likely at all
2
3

4 = Somewhat likely
5
6
7 = Very likely

Here participants also saw a timer that counts down from 9.

Deliberation Condition

How likely would you be to hire this candidate for the job?

Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise. You must wait and think for at least 20 seconds before making your decision.

1 = Not likely at all
2
3
4 = Somewhat likely
5
6
7 = Very likely

Here participants also saw a timer that counts up from 0. The "next" button appears after 20 seconds have passed.

After completing the task, participants saw this message: "Thank you. Now please answer the following questions." The first item served as a manipulation check.

Please rate the extent to which you agree with the following statements.

a) I used intuition or gut instincts to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

b) I used a careful analysis to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

Leaking confidential information is unethical.
1 = Strongly Disagree; 5 = Strongly Agree

Next, they were told "please proceed to the next page to answer some questions." They then completed the following scales: ***faith in intuition*** *(Epstein et al., 1996),* ***need for cognition*** *(Epstein et al., 1996),* ***propensity to morally disengage*** *(Moore et al., 2012),*

*and **moral identity** (Aquino & Reed, 2002). The first attention check question was imbedded within the items for moral identity. See Appendix B for the items.*

Next, participants were asked the following questions:

> What do you think this study is about? If you don't know, feel free to say "I don't know."
>
> _____

Finally, participants were told that "Thank you. You are almost finished. Please answer the demographic questions that follow, and your study session will then be over." They answered demographics questions, one of which was the second attention check question (see Appendix C) and were shown a debriefing document.

APPENDIX E

STUDY 2 MATERIALS

Here the study materials are presented as participants saw them. The lines indicate page breaks in the online survey. After reading the consent cover letter, participants engaged in the decision making task.

Please complete the following decision making task. Read the instructions carefully to ensure that you understand how the task works.

You will be given the opportunity to receive extra money based on the decisions that you and another randomly assigned participant will make in this task. You will be randomly, and virtually, paired with another participant.

No one will ever know the identity of the person with whom he or she is matched.

One of you will be assigned the role of "message sender," and one of you will be assigned the role of "decision maker." Please continue to be randomly assigned to a role.

Please be patient while the computer system randomly assigns you to a role…

This may take a few seconds…

Please stay on this page until you are assigned to a role; DO NOT REFRESH THIS PAGE.

You have been assigned to the role of "**message sender**." The other participant has been assigned to the role of "decision maker."

There are two possible monetary payments available in this task:

Option A: $3 to the “message sender” and $1 to the “decision maker”
Option B: $1 to the “message sender” and $3 to the “decision maker”

First, the “message sender” (you) will choose between one of two messages (which will be provided to you later) to send to the “decision maker.”

The “decision maker” will then make a choice between option A and option B. However, the “decision maker” will not know what the actual payments are for each option; the only information the “decision maker” will have is the message sent by you, the “message sender.”

Again, the “decision maker” will not know the monetary payments associated with each choice. Only you, the “message sender,” will ever see the monetary payment options.

Now please confirm which role has been assigned to you:
a) “message sender”
b) “decision maker”

The table below displays the payment options. Remember, only the “message sender” (you) will be able to see what the actual payment options are. The “decision maker” will simply be asked to select Option A or Option B after receiving your message. The option he or she selects will determine your own payment.

Payment Options	Option A	Option B
“Message Sender” (you) will receive...	$3	$1
“Decision Maker” will receive...	$1	$3

Here are the possible messages that you as the “message sender” can send to the “decision maker”.

Message 1: Option A earns you (the “decision maker”) more than Option B.
Message 2: Option B earns you (the “decision maker”) more than Option A.

Keep in mind that you will receive the money at the end of the session.

At this point participants in the intuition and deliberation conditions were given different instructions and then they chose which message to send. This decision was the dependent

variable.

Intuition Condition

Which message would you like to send to the "decision maker"?

Base your decision entirely on your intuition or first impression, and avoid thinking very hard. You must make your decision in less than 12 seconds.

Message 1: "Option A earns you (the "decision maker") more than Option B."
Message 2: "Option B earns you (the "decision maker") more than Option A."

Here participants also saw a timer that counts down from 12.

Deliberation Condition

Which message would you like to send to the "decision maker"?

Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise. You must wait and think for at least 15 seconds before making your decision.

Message 1: "Option A earns you (the "decision maker") more than Option B."
Message 2: "Option B earns you (the "decision maker") more than Option A."

Here participants also saw a timer that counts up from 0. The "next" button appears after 15 seconds have passed.

Thank you. Your message will be delivered to the "decision maker." You will be paid at the end of the session.

After completing the task, participants saw this message: "Thank you. Your message will be delivered to the 'decision maker.' You will be paid at the end of the session. Please answer the following questions before we communicate to you the outcome for you." The third item served as a manipulation check. The first attention check question was imbedded within the second item. Items a) through d) constitute the concern for others' interests scale. Items e) through h) constitute the concern for the self scale.

Why did you choose to send the message you did to the "decision maker"? (Gunia et al., 2012)

Please rate the extent to which you agree with the following statements.

a) The outcome of the Decision Maker is important to me.
   1 = Strongly Disagree; 7 = Strongly Agree

b) I want to make sure that the Decision Maker's interest is taken care of.
   1 = Strongly Disagree; 7 = Strongly Agree

c) How much money the Decision Maker gets doesn't really concern me. (R)
   1 = Strongly Disagree; 7 = Strongly Agree

d) My choice between the two messages was driven by the Decision Maker's expected payoff.
   1 = Strongly Disagree; 7 = Strongly Agree

e) My outcome is important to me.
   1 = Strongly Disagree; 7 = Strongly Agree

f) I want to make sure that my interest is taken care of.
   1 = Strongly Disagree; 7 = Strongly Agree

g) How much money I get doesn't really concern me. (R)
   1 = Strongly Disagree; 7 = Strongly Agree

h) My choice between the two messages was driven by my expected payoff. (Zhong, 2011)
   1 = Strongly Disagree; 7 = Strongly Agree

i) When I was choosing between the two messages, my emotion did not play any role. (R) (Zhong, 2011)
   1 = Strongly Disagree; 7 = Strongly Agree

j) This is an attention check question. To demonstrate that you are paying attention and reading carefully, please choose "somewhat agree".

Please rate the extent to which you agree with the following statements.

a) I used intuition or gut instincts to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

b) I used a careful analysis to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

How much will you earn if the "decision maker" believes your message? This is the option you told the "decision maker" would earn him or her more money.

a) $1

b) $3

When deciding which message to send, I expected the Decision Maker to believe me. (Gunia et al., 2012)

1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the "decision maker" is an explicit lie (Zhong, 2011).

1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the "decision maker" is unethical.

1 = Strongly Disagree; 5 = Strongly Agree

Next, they were told that "the system is processing participant choices to communicate final outcomes. Please wait." Afterward, they were told that they would receive either $1 or $3 according to the message they chose to send. They were asked to indicate their MTurk ID in order to receive the payment. Next, they were told "please proceed to the next page to answer some questions."

*They then completed the following scales: **faith in intuition** (Epstein et al., 1996), **need for cognition** (Epstein et al., 1996), **propensity to morally disengage** (Moore et al., 2012), and **moral identity** (Aquino & Reed, 2002). The second attention check question was imbedded within the items for moral identity. See Appendix B for the items.*

Next, participants were asked the following questions:

What do you think this study is about? If you don't know, feel free to say "I don't know."

Finally, participants were told that "Thank you. You are almost finished. Please answer the demographic questions that follow, and your study session will then be over." They answered demographics questions, one of which was the third attention check question (see Appendix C) and were shown a debriefing document.

APPENDIX F

STUDY 3A MATERIALS

Here the study materials are presented as participants saw them. The lines indicate page breaks in the online survey. After reading the consent cover letter, participants engaged in the decision making task. Participants in the business framing and nonbusiness framing conditions read different descriptions of the same decision making task.

Business Framing Condition

In this study you will be engaging in a business transaction with another participant currently logged into the system. Please read the instructions carefully to ensure that you understand how this business transaction works.

You will be given the opportunity to receive real money based on the decisions that you and another randomly assigned participant will make in this business transaction. You will be randomly, and virtually, paired with another participant.

No one will ever know the identity of the person with whom he or she is matched.

One of you will be assigned the role of "message sender," and one of you will be assigned the role of "decision maker." Please continue to be randomly assigned to a role.

Please be patient while the computer system randomly assigns you to a role…

This may take a few seconds…

Please stay on this page until you are assigned to a role; DO NOT REFRESH THIS PAGE.

You have been assigned to the role of "**message sender**." The other participant has been assigned to the role of "decision maker."

There are two possible monetary payments available in this business transaction:

Option A: $3 to the "message sender" and $1 to the "decision maker"
Option B: $1 to the "message sender" and $3 to the "decision maker"

First, the "message sender" (you) will choose between one of two messages (which will be provided to you later) to send to the "decision maker."

The "decision maker" will then make a choice between option A and option B. However, the "decision maker" will not know what the actual payments are for each option; the only information the "decision maker" will have is the message sent by you, the "message sender."

Again, the "decision maker" will not know the monetary payments associated with each choice. Only you, the "message sender," will ever see the monetary payment options.

Now please confirm which role has been assigned to you:
a) "message sender"
b) "decision maker"

The table below displays the payment options in this business transaction. Remember, only the "message sender" (you) will be able to see what the actual payment options are. The "decision maker" will simply be asked to select Option A or Option B after receiving your message. The option he or she selects will determine your own payment.

Payment Options	Option A	Option B
"Message Sender" (you) will receive...	$3	$1
"Decision Maker" will receive...	$1	$3

Here are the possible messages that you as the "message sender" can send to the "decision maker".

Message 1: Option A earns you (the "decision maker") more than Option B.
Message 2: Option B earns you (the "decision maker") more than Option A.

Keep in mind that you will receive the money at the end of the session.

Non-business Framing Condition

In this study you will be engaging in a social exchange with another participant currently logged into the system. Please read the instructions carefully to ensure that you understand how this social exchange works.

You will be given the opportunity to receive real money based on the decisions that you and another randomly assigned participant will make in this social exchange. You will be randomly, and virtually, paired with another participant.

No one will ever know the identity of the person with whom he or she is matched.

One of you will be assigned the role of "message sender," and one of you will be assigned the role of "decision maker." Please continue to be randomly assigned to a role.

Please be patient while the computer system randomly assigns you to a role…

This may take a few seconds…

Please stay on this page until you are assigned to a role; DO NOT REFRESH THIS PAGE.

You have been assigned to the role of "**message sender**." The other participant has been assigned to the role of "decision maker."

There are two possible monetary payments available in this social exchange:

Option A: $3 to the "message sender" and $1 to the "decision maker"
Option B: $1 to the "message sender" and $3 to the "decision maker"

First, the "message sender" (you) will choose between one of two messages (which will be provided to you later) to send to the "decision maker."

The "decision maker" will then make a choice between option A and option B. However, the "decision maker" will not know what the actual payments are for each option; the only information the "decision maker" will have is the message sent by you, the "message sender."

Again, the “decision maker” will not know the monetary payments associated with each choice. Only you, the “message sender,” will ever see the monetary payment options.

Now please confirm which role has been assigned to you:
a) “message sender”
b) “decision maker”

The table below displays the payment options in this social exchange. Remember, only the “message sender” (you) will be able to see what the actual payment options are. The “decision maker” will simply be asked to select Option A or Option B after receiving your message. The option he or she selects will determine your own payment.

Payment Options	Option A	Option B
“Message Sender” (you) will receive...	$3	$1
“Decision Maker” will receive...	$1	$3

Here are the possible messages that you as the “message sender” can send to the “decision maker”.

Message 1: Option A earns you (the “decision maker”) more than Option B.
Message 2: Option B earns you (the “decision maker”) more than Option A.

Keep in mind that you will receive the money at the end of the session.

At this point participants in the intuition and deliberation conditions were given different instructions.

Intuition Condition

Which message would you like to send to the “decision maker"?

Message 1: “Option A earns you (the “decision maker”) more than Option B.”
Message 2: “Option B earns you (the “decision maker”) more than Option A.”

Base your decision entirely on your intuition or first impression, and avoid thinking very hard.

Deliberation Condition

Which message would you like to send to the “decision maker"?

Message 1: “Option A earns you (the “decision maker”) more than Option B.”
Message 2: “Option B earns you (the “decision maker”) more than Option A.”

Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise.

At this point, participants responded to the items for the concern for others' interests, the concern for the self, and the role of emotion. The first attention check question was imbedded here. The concern for others' interests was the dependent variable. Items a) through d) constitute the concern for others' interests scale. Items e) through h) constitute the concern for the self scale.

Before sending your message to the "decision maker", please rate the extent to which you agree with the following statements.

a) The outcome of the Decision Maker is important to me.
   1 = Strongly Disagree; 7 = Strongly Agree

b) I want to make sure that the Decision Maker’s interest is taken care of.
   1 = Strongly Disagree; 7 = Strongly Agree

c) How much money the Decision Maker gets doesn’t really concern me. (R)
   1 = Strongly Disagree; 7 = Strongly Agree

d) My choice between the two messages was driven by the Decision Maker’s expected payoff.
   1 = Strongly Disagree; 7 = Strongly Agree

e) My outcome is important to me.
   1 = Strongly Disagree; 7 = Strongly Agree

f) I want to make sure that my interest is taken care of.
   1 = Strongly Disagree; 7 = Strongly Agree

g) How much money I get doesn’t really concern me. (R)
   1 = Strongly Disagree; 7 = Strongly Agree

h) My choice between the two messages was driven by my expected payoff. (Zhong, 2011)
   1 = Strongly Disagree; 7 = Strongly Agree

i) In choosing between the two messages, my emotion doesn’t play an important role. (R) (Zhong, 2011)
   1 = Strongly Disagree; 7 = Strongly Agree

j) This is an attention check question. To demonstrate that you are paying attention and reading carefully, please choose "somewhat agree".

At this point participants in the intuition and deliberation conditions read different instructions and then they chose which message to send to determine how much money they would get paid.

Intuition Condition

Now which message would you like to send to the "decision maker"?

Base your decision entirely on your intuition or first impression, and avoid thinking very hard. You must make your decision in less than 14 seconds.

Message 1: "Option A earns you (the "decision maker") more than Option B."
Message 2: "Option B earns you (the "decision maker") more than Option A."

Here participants also saw a timer that counts down from 14.

Deliberation Condition

Now which message would you like to send to the "decision maker"?

Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise. You must wait and think for at least 15 seconds before making your decision.

Message 1: "Option A earns you (the "decision maker") more than Option B."
Message 2: "Option B earns you (the "decision maker") more than Option A."

Here participants also saw a timer that counts up from 0. The "next" button appears after 15 seconds have passed.

Thank you. Your message will be delivered to the "decision maker." You will be paid at the end of the session.

After completing the task, participants saw this message: "Thank you. Your message will be delivered to the 'decision maker.' You will be paid at the end of the session. Please answer the following questions before we communicate to you the outcome for you." The second item served as a manipulation check.

Why did you choose to send the message you did to the "decision maker"? (Gunia

et al., 2012)

Please rate the extent to which you agree with the following statements.

a) I used intuition or gut instincts to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

b) I used a careful analysis to make my decision. (Dane et al., 2012)
   1 = Strongly Disagree; 7 = Strongly Agree

c) The decision making task was a business transaction.
   1 = Strongly Disagree; 7 = Strongly Agree

d) The decision making task was a social exchange.
   1 = Strongly Disagree; 7 = Strongly Agree

How much will you earn if the "decision maker" believes your message? This is the option you told the "decision maker" would earn him or her more money.

a) $1
b) $3

When deciding which message to send, I expected the Decision Maker to believe me. (Gunia et al., 2012)

1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the "decision maker" is an explicit lie (Zhong, 2011).

1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the "decision maker" is unethical.

1 = Strongly Disagree; 5 = Strongly Agree

Next, they were told that "the system is processing participant choices to communicate final outcomes. Please wait." Afterward, they were told that they would receive either $1 or $3 according to the message they chose to send. They were asked to indicate their MTurk ID in order to receive the payment. Next, they were told "please proceed to the next page to answer some questions."

They then completed the following scales: ***faith in intuition*** *(Epstein et al., 1996),* ***need for cognition*** *(Epstein et al., 1996),* ***propensity to morally disengage*** *(Moore et al., 2012), and* ***moral identity*** *(Aquino & Reed, 2002). The second attention check question was*

imbedded within the items for moral identity. See Appendix B for the items.

Next, participants were asked the following questions:

> What do you think this study is about? If you don't know, feel free to say "I don't know."
>
> _____
>
> Have you done this exact decision making task before?
>
> Have you taken MGT 3680 before?

Finally, participants were told that "Thank you. You are almost finished. Please answer the demographic questions that follow, and your study session will then be over." They answered demographics questions (see Appendix C) and were shown a debriefing document.

APPENDIX G

STUDY 3B MATERIALS

Here the study materials are presented as participants saw them. The lines indicate page breaks in the online survey. After reading the consent cover letter, participants engaged in the decision making task. Participants in the business framing and non-business framing conditions read different descriptions of the same decision making task.

Business Framing Condition

In this study you will be engaging in a business transaction with another participant currently logged into the system. Please read the instructions carefully to ensure that you understand how this business transaction works.

You will be given the opportunity to receive real money based on the decisions that you and another randomly assigned participant will make in this business transaction. You will be randomly, and virtually, paired with another participant.

No one will ever know the identity of the person with whom he or she is matched.

One of you will be assigned the role of "message sender," and one of you will be assigned the role of "decision maker." Please continue to be randomly assigned to a role.

Please be patient while the computer system randomly assigns you to a role…

This may take a few seconds…

Please stay on this page until you are assigned to a role; DO NOT REFRESH THIS PAGE.

You have been assigned to the role of "**message sender**." The other participant has been assigned to the role of "decision maker."

There are two possible monetary payments available in this business transaction:

Option A: $3 to the "message sender" and $1 to the "decision maker"
Option B: $1 to the "message sender" and $3 to the "decision maker"

First, the "message sender" (you) will choose between one of two messages (which will be provided to you later) to send to the "decision maker."

The "decision maker" will then make a choice between option A and option B. However, the "decision maker" will not know what the actual payments are for each option; the only information the "decision maker" will have is the message sent by you, the "message sender."

Again, the "decision maker" will not know the monetary payments associated with each choice. Only you, the "message sender," will ever see the monetary payment options.

Now please confirm which role has been assigned to you:
a) "message sender"
b) "decision maker"

The table below displays the payment options in this business transaction. Remember, only the "message sender" (you) will be able to see what the actual payment options are. The "decision maker" will simply be asked to select Option A or Option B after receiving your message. The option he or she selects will determine your own payment.

Payment Options	Option A	Option B
"Message Sender" (you) will receive...	$3	$1
"Decision Maker" will receive...	$1	$3

Here are the possible messages that you as the "message sender" can send to the "decision maker".

Message 1: Option A earns you (the "decision maker") more than Option B.
Message 2: Option B earns you (the "decision maker") more than Option A.

Keep in mind that you will receive the money at the end of the session.

Non-business Framing Condition

In this study you will be engaging in a social exchange with another participant currently logged into the system. Please read the instructions carefully to ensure that you understand how this social exchange works.

You will be given the opportunity to receive real money based on the decisions that you and another randomly assigned participant will make in this social exchange. You will be randomly, and virtually, paired with another participant.

No one will ever know the identity of the person with whom he or she is matched.

One of you will be assigned the role of "message sender," and one of you will be assigned the role of "decision maker." Please continue to be randomly assigned to a role.

Please be patient while the computer system randomly assigns you to a role…

This may take a few seconds…

Please stay on this page until you are assigned to a role; DO NOT REFRESH THIS PAGE.

You have been assigned to the role of "**message sender**." The other participant has been assigned to the role of "decision maker."

There are two possible monetary payments available in this social exchange:

Option A: $3 to the "message sender" and $1 to the "decision maker"
Option B: $1 to the "message sender" and $3 to the "decision maker"

First, the "message sender" (you) will choose between one of two messages (which will be provided to you later) to send to the "decision maker."

The "decision maker" will then make a choice between option A and option B. However, the "decision maker" will not know what the actual payments are for each option; the only information the "decision maker" will have is the message sent by you, the "message sender."

Again, the “decision maker” will not know the monetary payments associated with each choice. Only you, the “message sender,” will ever see the monetary payment options.

Now please confirm which role has been assigned to you:
a) “message sender”
b) “decision maker”

The table below displays the payment options in this social exchange. Remember, only the “message sender” (you) will be able to see what the actual payment options are. The “decision maker” will simply be asked to select Option A or Option B after receiving your message. The option he or she selects will determine your own payment.

Payment Options	Option A	Option B
“Message Sender” (you) will receive...	$3	$1
“Decision Maker” will receive...	$1	$3

Here are the possible messages that you as the “message sender” can send to the “decision maker”.

Message 1: Option A earns you (the “decision maker”) more than Option B.
Message 2: Option B earns you (the “decision maker”) more than Option A.

Keep in mind that you will receive the money at the end of the session.

At this point participants in the intuition and deliberation conditions were given different instructions and then they chose which message to send. This decision was the dependent variable.

Intuition Condition

Which message would you like to send to the “decision maker"?

Base your decision entirely on your intuition or first impression, and avoid thinking very hard. You must make your decision in less than 14 seconds.

Message 1: “Option A earns you (the “decision maker”) more than Option B.”
Message 2: “Option B earns you (the “decision maker”) more than Option A.”

Here participants also saw a timer that counts down from 14.

Deliberation Condition

Which message would you like to send to the "decision maker"?

Base your decision on a very careful analysis and ignore any first impression or gut instinct that might arise. You must wait and think for at least 15 seconds before making your decision.

Message 1: "Option A earns you (the "decision maker") more than Option B."
Message 2: "Option B earns you (the "decision maker") more than Option A."

Here participants also saw a timer that counts up from 0. The "next" button appears after 15 seconds have passed.

Thank you. Your message will be delivered to the "decision maker." You will be paid at the end of the session.

After completing the task, participants saw this message: "Thank you. Your message will be delivered to the 'decision maker.' You will be paid at the end of the session. Please answer the following questions before we communicate to you the outcome for you." The third item served as a manipulation check. The first attention check question was imbedded within the second item. Items a) through d) constitute the concern for others' interests scale. Items e) through h) constitute the concern for the self scale.

Why did you choose to send the message you did to the "decision maker"? (Gunia et al., 2012)

Please rate the extent to which you agree with the following statements.

a) The outcome of the Decision Maker is important to me.
   1 = Strongly Disagree; 7 = Strongly Agree

b) I want to make sure that the Decision Maker's interest is taken care of.
   1 = Strongly Disagree; 7 = Strongly Agree

c) How much money the Decision Maker gets doesn't really concern me. (R)
   1 = Strongly Disagree; 7 = Strongly Agree

d) My choice between the two messages was driven by the Decision Maker's expected payoff.
   1 = Strongly Disagree; 7 = Strongly Agree

e) My outcome is important to me.

1 = Strongly Disagree; 7 = Strongly Agree

f) I want to make sure that my interest is taken care of.
1 = Strongly Disagree; 7 = Strongly Agree

g) How much money I get doesn't really concern me. (R)
1 = Strongly Disagree; 7 = Strongly Agree

h) My choice between the two messages was driven by my expected payoff. (Zhong, 2011)
1 = Strongly Disagree; 7 = Strongly Agree

i) When I was choosing between the two messages, my emotion did not play any role. (R) (Zhong, 2011)
1 = Strongly Disagree; 7 = Strongly Agree

j) This is an attention check question. To demonstrate that you are paying attention and reading carefully, please choose "somewhat agree".

Please rate the extent to which you agree with the following statements.

a) I used intuition or gut instincts to make my decision. (Dane et al., 2012)
1 = Strongly Disagree; 7 = Strongly Agree

b) I used a careful analysis to make my decision. (Dane et al., 2012)
1 = Strongly Disagree; 7 = Strongly Agree

c) The decision making task was a business transaction.
1 = Strongly Disagree; 7 = Strongly Agree

d) The decision making task was a social exchange.
1 = Strongly Disagree; 7 = Strongly Agree

How much will you earn if the "decision maker" believes your message? This is the option you told the "decision maker" would earn him or her more money.

a) $1
b) $3

When deciding which message to send, I expected the Decision Maker to believe me. (Gunia et al., 2012)

1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the "decision maker" is an explicit lie (Zhong, 2011).
1 = Strongly Disagree; 5 = Strongly Agree

_____

Sending the false message to the "decision maker" is unethical.
1 = Strongly Disagree; 5 = Strongly Agree

_____

Next, they were told that "the system is processing participant choices to communicate final outcomes. Please wait." Afterward, they were told that they would receive either $1 or $3 according to the message they chose to send. They were asked to indicate their MTurk ID in order to receive the payment. Next, they were told "please proceed to the next page to answer some questions."

They then completed the following scales: ***faith in intuition*** *(Epstein et al., 1996),* ***need for cognition*** *(Epstein et al., 1996),* ***propensity to morally disengage*** *(Moore et al., 2012), and* ***moral identity*** *(Aquino & Reed, 2002). The second attention check question was imbedded within the items for moral identity. See Appendix B for the items.*

Next, participants were asked the following questions:

What do you think this study is about? If you don't know, feel free to say "I don't know."

_____

Have you done this exact decision making task before?

Have you taken MGT 3680 before?

Finally, participants were told that "Thank you. You are almost finished. Please answer the demographic questions that follow, and your study session will then be over." They answered demographics questions (see Appendix C) and were shown a debriefing document.

APPENDIX H

STUDY 3C MATERIALS

Here the study materials are presented as participants saw them. The lines indicate page breaks in the online survey. After reading the consent cover letter, participants were randomly assigned to one of four conditions: intuition and business framing condition, intuition and non-business framing condition, deliberation and business framing condition, and deliberation and non-business framing condition. They were given different instructions in the decision making task and then they chose which message to send. This decision was the dependent variable.

Intuition and Business Framing Condition

We are interested in how people use **intuition** to make decisions. You will be engaging in **a hypothetical business transaction with another party**. Please read the instructions carefully to ensure that you understand how this hypothetical business transaction works.

Imagine that there are **two parties in this hypothetical business transaction: you and the other party**.

Imagine that there are two possible monetary payments available in this **hypothetical business transaction**:

Option A: $3 to you and $1 to the other party
Option B: $1 to you and $3 to the other party

First, you will choose between one of two messages (which will be provided to you later) to send to the other party.

The other party will then make a choice between option A and option B. However, the other party in this hypothetical business transaction will not know what the actual payments are for each option; the only information the other party will have is the message sent by you.

Again, imagine that the other party will not know the monetary payments associated with each choice. Only you will ever see the monetary payment options.

The table below displays the payment options in this **hypothetical business transaction**. Remember, only you will be able to see what the actual payment options are. The other party will simply be asked to select Option A or Option B after receiving your message.

Payment Options	Option A	Option B
You receive...	$3	$1
The other party will receive...	$1	$3

Here are the possible messages that you can send to the other party.

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

Which message does your <u>intuition or gut instinct</u> tell you to send to the other party in this hypothetical business transaction?

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

<u>Intuition and Non-Business Framing Condition</u>

We are interested in how people use **intuition** to make decisions. You will be engaging in **a hypothetical task with another participant**. Please read the instructions carefully to ensure that you understand how this hypothetical task works.

Imagine that there are **two participants in this hypothetical task: you and the other participant**.

<u>Imagine that there are two possible monetary payments available in this **hypothetical task**:</u>

Option A: $3 to you and $1 to the other participant
Option B: $1 to you and $3 to the other participant

First, you will choose between one of two messages (which will be provided to you later) to send to the other participant.

The other participant will then make a choice between option A and option B. However, the other participant in this hypothetical task will not know what the actual payments are for each option; the only information the other participant will have is the message sent by you.

Again, imagine that the other participant will not know the monetary payments associated with each choice. Only you will ever see the monetary payment options.

The table below displays the payment options in this **hypothetical task**. Remember, only you will be able to see what the actual payment options are. The other participant will simply be asked to select Option A or Option B after receiving your message.

Payment Options	Option A	Option B
You receive...	$3	$1
The other participant will receive...	$1	$3

Here are the possible messages that you can send to the other participant.

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

Which message does your <u>intuition or gut instinct</u> tell you to send to the other participant in this hypothetical task?

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

<u>Deliberation and Business Framing Condition</u>

We are interested in how people use **a careful analysis** to make decisions. You will be engaging in **a hypothetical business transaction with another party**. Please read the instructions carefully to ensure that you understand how this hypothetical business transaction works.

Imagine that there are **two parties in this hypothetical business transaction:**

you and the other party.

Imagine that there are two possible monetary payments available in this **hypothetical business transaction**:

Option A: $3 to you and $1 to the other party
Option B: $1 to you and $3 to the other party

First, you will choose between one of two messages (which will be provided to you later) to send to the other party.

The other party will then make a choice between option A and option B. However, the other party in this hypothetical business transaction will not know what the actual payments are for each option; the only information the other party will have is the message sent by you.

Again, imagine that the other party will not know the monetary payments associated with each choice. Only you will ever see the monetary payment options.

The table below displays the payment options in this **hypothetical business transaction**. Remember, only you will be able to see what the actual payment options are. The other party will simply be asked to select Option A or Option B after receiving your message.

Payment Options	Option A	Option B
You receive...	$3	$1
The other party will receive...	$1	$3

Here are the possible messages that you can send to the other party.

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

Please think very carefully about which message to send in the next three minutes.

Which message does your careful analysis tell you to send to the other party in this hypothetical business transaction?

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

Here participants also saw a timer that counts down from three minutes. The "next" button appears after three minutes have passed.

Deliberation and Non-Business Framing Condition

We are interested in how people use **a careful analysis** to make decisions. You will be engaging in **a hypothetical task with another participant**. Please read the instructions carefully to ensure that you understand how this hypothetical task works.

Imagine that there are **two participants in this hypothetical task: you and the other participant**.

Imagine that there are two possible monetary payments available in this **hypothetical task**:

Option A: $3 to you and $1 to the other participant
Option B: $1 to you and $3 to the other participant

First, you will choose between one of two messages (which will be provided to you later) to send to the other participant.

The other participant will then make a choice between option A and option B. However, the other participant in this hypothetical task will not know what the actual payments are for each option; the only information the other participant will have is the message sent by you.

Again, imagine that the other participant will not know the monetary payments associated with each choice. Only you will ever see the monetary payment options.

The table below displays the payment options in this **hypothetical task**. Remember, only you will be able to see what the actual payment options are. The other participant will simply be asked to select Option A or Option B after receiving your message.

Payment Options	Option A	Option B
You receive...	$3	$1
The other participant will receive...	$1	$3

Here are the possible messages that you can send to the other participant.

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

Please <u>think very carefully</u> about which message to send in the next three minutes.

Which message does your <u>careful analysis</u> tell you to send to the other participant in this hypothetical task?

Message 1: Option A earns you more than Option B.
Message 2: Option B earns you more than Option A.

Here participants also saw a timer that counts down from three minutes. The "next" button appears after three minutes have passed.

After completing the task, participants answered manipulation check questions.

Thank you. Now please answer the following questions about the task you just completed.

a) My choice between the two messages was based on my intuition or gut instinct.
   1 = Strongly Disagree; 5 = Strongly Agree

b) My choice between the two messages was based on a careful analysis.
   1 = Strongly Disagree; 5 = Strongly Agree

c) The task I just completed was a hypothetical business transaction.
   1 = Strongly Disagree; 5 = Strongly Agree

At this point participants in the business framing and nonbusiness framing conditions were asked to rate slightly different items. In the business framing conditions, the other person was referred to as "the other party". In the non-business framing conditions, the other person was referred to as "the other participant". The attention check question was imbedded here. Items a) through d) constitute the concern for others' interests scale. Items e) through h) constitute the concern for the self scale.

<u>Business Framing Condition</u>

Please rate the extent to which you agree with the following statements.

a) The outcome of the other party is important to me.
1 = Strongly Disagree; 7 = Strongly Agree

b) I want to make sure that the other party's interest is taken care of.
1 = Strongly Disagree; 7 = Strongly Agree

c) How much money the other party gets doesn't really concern me. (R)
1 = Strongly Disagree; 7 = Strongly Agree

d) My choice between the two messages was driven by the other party's expected payoff.
1 = Strongly Disagree; 7 = Strongly Agree

e) My outcome is important to me.
1 = Strongly Disagree; 7 = Strongly Agree

f) I want to make sure that my interest is taken care of.
1 = Strongly Disagree; 7 = Strongly Agree

g) How much money I get doesn't really concern me. (R)
1 = Strongly Disagree; 7 = Strongly Agree

h) My choice between the two messages was driven by my expected payoff. (Zhong, 2011)
1 = Strongly Disagree; 7 = Strongly Agree

i) When I was choosing between the two messages, my emotion did not play any role. (R) (Zhong, 2011)
1 = Strongly Disagree; 7 = Strongly Agree

j) As an attention check, please answer this question with "somewhat disagree".

Sending the false message to the other party is an explicit lie (Zhong, 2011).
1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the other party is unethical.
1 = Strongly Disagree; 5 = Strongly Agree

What do you think this study is about? If you don't know, feel free to say "I don't know."

Have you done this exact decision making task before?

Non-Business Framing Condition

Please rate the extent to which you agree with the following statements.

a) The outcome of the other participant is important to me.
   1 = Strongly Disagree; 7 = Strongly Agree

b) I want to make sure that the other participant's interest is taken care of.
   1 = Strongly Disagree; 7 = Strongly Agree

c) How much money the other participant gets doesn't really concern me. (R)
   1 = Strongly Disagree; 7 = Strongly Agree

d) My choice between the two messages was driven by the other participant's expected payoff.
   1 = Strongly Disagree; 7 = Strongly Agree

e) My outcome is important to me.
   1 = Strongly Disagree; 7 = Strongly Agree

f) I want to make sure that my interest is taken care of.
   1 = Strongly Disagree; 7 = Strongly Agree

g) How much money I get doesn't really concern me. (R)
   1 = Strongly Disagree; 7 = Strongly Agree

h) My choice between the two messages was driven by my expected payoff. (Zhong, 2011)
   1 = Strongly Disagree; 7 = Strongly Agree

i) When I was choosing between the two messages, my emotion did not play any role. (R) (Zhong, 2011)
   1 = Strongly Disagree; 7 = Strongly Agree

j) As an attention check, please answer this question with "somewhat disagree".

Sending the false message to the other participant is an explicit lie (Zhong, 2011).
1 = Strongly Disagree; 5 = Strongly Agree

Sending the false message to the other participant is unethical.
1 = Strongly Disagree; 5 = Strongly Agree

_____

What do you think this study is about? If you don't know, feel free to say "I don't know."

_____

Have you done this exact decision making task before?

Finally, participants were told that "Thank you. You are almost finished. Please answer the demographic questions that follow, and your study session will then be over." They answered demographics questions (see Appendix C) and were shown a debriefing document.

REFERENCES

Ambady, N. (2010). The perils of pondering: Intuition and thin slice judgments. *Psychological Inquiry, 21*(4), 271-278.

Ambady, N., & Rosenthal, R. (1993). Half a minute: Predicting teacher evaluations from thin slices of behavior and physical attractiveness. *Journal of Personality and Social Psychology, 64*, 431-441.

Aquino, K., & Reed II, A. (2002). The self-importance of moral identity. *Journal of personality and social psychology, 83*(6), 1423.

Axelrod, R. M., & Hamilton, W. D. (1984). *The evolution of cooperation*. New York: Basic Books.

Balliet, D., Parks, C., & Joireman, J. (2009). Social value orientation and cooperation in social dilemmas: A meta-analysis. *Group Processes & Intergroup Relations, 12*(4), 533-547.

Bandura, A. (1990). Mechanisms of moral disengagement. In W. Reich (Ed.), *Origins of terrorism: Psychologies, ideologies, states of mind* (pp. 161–191). New York: Cambridge University Press.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Mechanisms of moral disengagement in the exercise of moral agency. *Journal of Personality and Social Psychology, 71*(2), 364.

Bargh, J. A. (1996). Principles of automaticity. In E. T. Higgins & A. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 169-183). New York: Guilford Press.

Bargh, J. A., & Chartrand, T. L. (1999). The unbearable automaticity of being. *American Psychologist, 54*(7), 462-479.

Batson, C. D. (1996). Do prosocial motives have any business in business? *Social Justice Research, 9*, 7-25.

Batson, C. D., & Moran, T. (1999). Empathy-induced altruism in a prisoner's dilemma.

European Journal of Social Psychology, 29(7), 909-924.

Baumeister, R. F. (2002). Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior. *Journal of Consumer Research, 28*(4), 670-676.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*(5), 1252-1265.

Baumeister, R. F., Vohs, K. D., DeWall, N., & Zhang, L. (2007). How emotion shapes behavior: Feedback, anticipation, and reflection, rather than direct causation. *Personality and Social Psychology Review, 11*, 167-203.

Bazerman, M. H. (1994). *Judgment in managerial decision making*. New York: Wiley.

Bazerman, M. H., & Gino, F. (2012). Behavioral ethics: Toward a deeper understanding of moral judgment and dishonesty. *Annual Review of Law and Social Science, 8*, 85-104.

Betsch, T. (2008). The nature of intuition and its neglect in research on judgment and decision making. In H. Plessner, C. Betsch, & T. Betsch (Eds.), *Intuition in judgment and decision making* (pp. 3-22). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Blasi, A. (1980). Bridging moral cognition and moral action: A critical review of the literature. *Psychological Bulletin, 88*, 1-45.

Bloom, P. (2013). *Just babies: The origins of good and evil*. New York: Crown.

Bowles, S., & Gintis, H. (2011). *A cooperative species: Human reciprocity and its evolution*. Princeton, NJ: Princeton University Press.

Buchtel, E. E., & Norenzayan, A. (2008). Which should you use, intuition or logic? Cultural differences in injunctive norms about reasoning. *Asian Journal of Social Psychology, 11*(4), 264-273.

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk a new source of inexpensive, yet high-quality, data? *Perspectives on psychological science, 6*(1), 3-5.

Butterfield, K. D., Trevin, L. K., & Weaver, G. R. (2000). Moral awareness in business organizations: Influences of issue-related and social context factors. *Human Relations, 53*(7), 981-1018.

Camerer, C. (2003). *Behavioral game theory: Experiments in strategic interaction*.

Princeton, NJ: Princeton University Press.

Cappelletti, D., Güth, W., & Ploner, M. (2011). Being of two minds: Ultimatum offers under cognitive constraints. *Journal of Economic Psychology, 32*(6), 940-950.

Caruso, E. M., Vohs, K. D., Baxter, B., & Waytz, A. (2013). Mere exposure to money increases endorsement of free-market systems and social inequality. *Journal of Experimental Psychology: General, 142*(2), 1-6.

Cohen, T. R., & Morse, L. (2014). Moral character: What it is and what it does. *Research in Organizational Behavior, 34*, 43-61.

Cohen, T. R., Panter, A. T., Turan, N., Morse, L., & Kim, Y. (2014). Moral character in the workplace. *Journal of Personality and Social Psychology, 107*(5), 943-963.

Collins, L. M., Graham, J. J., & Flaherty, B. P. (1998). An alternative framework for defining mediation. *Multivariate Behavioral Research, 33*, 295-312.

Cone, J., & Rand, D. G. (2014). Time pressure increases cooperation in competitively framed social dilemmas. *PloS one, 9*(12), e115756.

Cornelissen, G., Dewitte, S., & Warlop, L. (2011). Are social value orientations expressed automatically? Decision making in the dictator game. *Personality and Social Psychology Bulletin, 37*(8), 1080-1090.

Curry, O. S., Price, M. E., & Price, J. G. (2008). Patience is a virtue: Cooperative people have lower discount rates. *Personality and Individual Differences, 44*(3), 780-785.

Damasio, A. R. (1994). *Descartes' error: Emotion, reason, and the human brain*. New York: Putnam.

Dane, E., & Pratt, M. G. (2007). Exploring intuition and its role in managerial decision making. *Academy of Management Review, 32*, 33-54.

Dane, E., Rockmann, K. W., & Pratt, M. G. (2012). When should I trust my gut? Linking domain expertise to intuitive decision-making effectiveness. *Organizational Behavior & Human Decision Processes, 119*(2), 187-194.

Darley, J. M., & Latane, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology, 8*, 377-383.

Deflem, M. (2003). The sociology of the sociology of money. *Journal of Classical Sociology, 3*, 67-96.

Deutsch, M. (1958). Trust and suspicion. *Journal of Conflict Resolution, 2*, 265-279.

DeWall, C. N., Baumeister, R. F., Gailliot, M. T., & Maner, J. K. (2008). Depletion makes the heart grow less helpful: Helping as a function of self-regulatory energy and genetic relatedness. *Personality and Social Psychology Bulletin, 34*(12), 1653-1662.

Diener, E., Dineen, J., Endresen, K., Beaman, A. L., & Fraser, S. C. (1975). Effects of altered responsibility, cognitive set, and modeling on physical aggression and deindividuation. *Journal of Personality and Social Psychology, 31*(2), 328.

Duffy, S., & Smith, J. (2014). Cognitive load in the multi-player prisoner's dilemma game: Are there brains in games? *Journal of Behavioral and Experimental Economics, 51*, 47-56.

Eiser, J. R., & Bhavnani, K. K. (1974). The effect of situational meaning on the behaviour of subjects in the Prisoner's Dilemma Game. *European Journal of Social Psychology, 4*(1), 93-97.

Ellingsen, T., Johannesson, M., Mollerstrom, J., & Munkhammar, S. (2012). Social framing effects: Preferences or beliefs? *Games and Economic Behavior, 76*(1), 117-130.

Engel, C., & Rand, D. G. (2014). What does "clean" really mean? The implicit framing of decontextualized experiments. *Economics Letters, 122*(3), 386-389.

Epstein, S. (2010). Demystifying intuition: What it is, what it does, and how it does it. *Psychological Inquiry, 21*, 295–312.

Epstein, S., Pacini, R., Denes-Raj, V., & Heier, H. (1996). Individual differences in intuitive-experiential and analytical-rational thinking styles. *Journal of Personality and Social Psychology, 71*, 390-405.

Ferraro, F., Pfeffer, J., & Sutton, R. I. (2005). Economics language and assumptions: How theories can become self-fulfilling. *Academy of Management Review, 30*(1), 8-24.

Gneezy, U. (2005). Deception: The role of consequences. *American Economic Review, 95*(1), 384-395.

Gunia, B. C., Wang, L., Huang, L., Wang, J., & Murnighan, J. K. (2012). Contemplation and conversation: Subtle influences on moral decision making. *Academy of Management Journal, 55*(1), 13-33.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review, 108*, 814-834.

Haidt, J. (2007). The new synthesis in moral psychology. *Science, 316*, 998-1002.

Haidt, J., & Joseph, C. (2004). Intuitive ethics: How innately prepared intuitions generate culturally variable virtues. *Daedalus, 133*(4), 55-66.

Haidt, J., Koller, S. H., & Dias, M. G. (1993). Affect, culture and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology, 65*, 613-628.

Hamlin, J. K., Wynn, K., & Bloom, P. (2007). Social evaluation by preverbal infants. *Nature, 450*, 557-559.

Hammond, K. R., Hamm, R. M., Grassia, J., & Pearson, T. (1987). Direct comparison of the efficacy of intuitive and analytical cognition in expert judgment. *IEEE Transactions on Systems, Man, and Cybernetics, 17*, 753-770.

Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., & Gintis, H. (2004). *Foundations of human sociality: Economic experiments and ethnographic evidence from fifteen small-scale societies*. Oxford, UK: Oxford University Press.

Hogarth, R. M. (2010). Intuition: A challenge for psychological research on decision making. *Psychological Inquiry, 21*(4), 338-353.

Hunt, S. D., & Vitell, S. (1986). A general theory of marketing ethics. *Journal of Macromarketing, 6*(1), 5-16.

Ji, L.-J., Nisbett, R. E. & Su, Y. (2001). Culture, change, and prediction. *Psychological Science, 12*(6), 450-456.

Ji, L.-J., Peng, K. & Nisbett, R. E. (2000). Culture, control, and perception of relationships in the environment. *Journal of Personality and Social Psychology, 78*, 943-955.

Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review, 16*, 366-395.

Kahneman, D. (2003). A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist, 58*, 697-720.

Kahneman, D. (2011). *Thinking, fast and slow*. New York: Farrar, Straus and Giroux.

Kahneman, D., Slovic, P., & Tversky, A. (1982). *Judgment under uncertainty: Heuristics and biases*. Cambridge, UK: Cambridge University Press.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*, 263-292.

Kahneman, D., & Tversky, A. (2000). *Choices, values, and frames*. New York: Russell Sage Foundation.

Kay, A. C., & Ross, L. (2003). The perceptual push: The interplay of implicit cues and explicit situational construals on behavioral intentions in the Prisoner's Dilemma. *Journal of Experimental Social Psychology, 39*(6), 634-643.

Kay, A. C., Wheeler, S. C., Bargh, J. A., & Ross, L. (2004). Material priming: The influence of mundane physical objects on situational construal and competitive behavioral choice. *Organizational Behavior and Human Decision Processes, 95*(1), 83-96.

Keltner, D., Kogan, A., Piff, P. K., & Saturn, S. R. (2014). The sociocultural appraisals, values, and emotions (SAVE) framework of prosociality: Core processes from gene to meme. *Annual Review of Psychology, 65*, 425-460.

Kessler, J. B., & Meier, S. (2014). Learning from (failed) replications: Cognitive load manipulations and charitable giving. *Journal of Economic Behavior & Organization, 102*, 10-13.

Khatri, N., & Ng, H. (2000). The role of intuition in strategic decision making. *Human Relations, 53*(1), 57-86.

Kieslich, P. J., & Hilbig, B. E. (2014). Cognitive conflict in social dilemmas: An analysis of response dynamics. *Judgment and Decision Making, 9*(6), 510-522.

Kinnunen, S. P., & Windmann, S. (2013). Dual-processing altruism. *Frontiers in Psychology, 4*, 1-8.

Kish-Gephart, J. J., Harrison, D. A., & Treviño, L. K. (2010). Bad apples, bad cases, and bad barrels: Meta-analytic evidence about sources of unethical decisions at work. *Journal of Applied Psychology, 95*(1), 1-31.

Kohlberg, L. (1969). Stage and sequence: The cognitive-developmental approach to socialization. In D.A. Goslin (Ed.), *Handbook of socialization theory and research* (pp. 347-480). Chicago, IL: Rand McNally.

Kohlberg, L., & Candee, D. (1984). The relationship of moral judgment to moral action. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Morality, moral behavior, and moral development* (pp. 52-73). New York: Wiley.

Kouchaki, M., Smith-Crowe, K., Brief, A. P., & Sousa, C. (2013). Seeing green: Mere exposure to money triggers a business decision frame and unethical outcomes. *Organizational Behavior and Human Decision Processes, 121*(1), 53-61.

Kühberger, A. (1998). The influence of framing on risky decisions: A meta-analysis. *Organizational Behavior and Human Decision Processes, 75*(1), 23-55.

Lapsley, D. K. (1996). *Moral psychology*. Boulder, CO: Westview Press.

Latané, B., & Nida, S. (1981). Ten years of research on group size and helping. *Psychological Bulletin, 89*(2), 308-324.

Levine, R. V. (2003). The kindness of strangers. *American Scientist, 91*(3), 226-233.

Levine, R. V., Martinez, T. S., Brase, G., & Sorenson, K. (1994). Helping in 36 U.S. cities. *Journal of Personality and Social Psychology, 67*(1), 69-82.

Liberman, V., Samuels, S. M., & Ross, L. (2004). The name of the game: Predictive power of reputations versus situational labels in determining prisoner's dilemma game moves. *Personality and Social Psychology Bulletin, 30*(9), 1175-1185.

Lind, E. A., & van den Bos, K. (2013). Freeing organizational behavior from inhibitory constraints. *Research in Organizational Behavior, 33*, 79-95.

List, J. A. (2011). The market for charitable giving. *The Journal of Economic Perspectives, 25*(2), 157-180.

MacKinnon, D. P., & Fairchild, A. J. (2009). Current directions in mediation analysis. *Current Directions in Psychological Science, 18*(1), 16-20.

Martin, K. D., & Cullen, J. B. (2006). Continuities and extensions of ethical climate theory: A meta-analytic review. *Journal of Business Ethics, 69*(2), 175-194.

Martinsson, P., Myrseth, K. O. R., & Wollbrant, C. (2012). Reconciling pro-social vs. selfish behavior: On the role of self-control. *Judgment and Decision Making, 7*(3), 304-315.

McMackin, J., & Slovic, P. (2000). When does explicit justification impair decision making? *Applied Cognitive Psychology, 14*, 527-541.

Mikels, J. A., Maglio, S. J., Reed, A. E., & Kaplowitz, L. J. (2011). Should I go with my gut? Investigating the benefits of emotion-focused decision making. *Emotion, 11*(4), 743-753.

Miller, D. T. (1999). The norm of self-interest. *American Psychologist, 54*, 1053-1060.

Monin, B., Pizarro, D. A., & Beer, J. S. (2007). Deciding vs. reacting: Conceptions of moral judgment and the reason-affect debate. *Review of General Psychology, 11*, 99-111.

Moore, C., Detert, J. R., Treviño, L. K., Baker, V. L., & Mayer, D. M. (2012). Why employees do bad things: Moral disengagement and unethical organizational behavior. *Personnel Psychology, 65*(1), 1-48.

Moore, C., & Tenbrunsel, A. E. (2014). 'Just think about it'? Cognitive complexity and

moral choice. *Organizational Behavior and Human Decision Processes, 123*(2), 138-149.

Moore, D. A., & Loewenstein, G. (2004). Self-interest, automaticity, and the psychology of conflict of interest. *Social Justice Research, 17*(2), 189-202.

Narvaez, D. (2010). Moral complexity: The fatal attraction of truthiness and the importance of mature moral functioning. *Perspectives on Psychological Science, 5*, 163-181.

Norenzayan, A., Smith, E. E., Kim, B. J. & Nisbett, R. E. (2002). Cultural preferences for formal versus intuitive reasoning. *Cognitive Science, 26*, 653-684.

Nowak, M. A., & Sigmund, K. (2005). Evolution of indirect reciprocity. *Nature, 437*(7063), 1291-1298.

Nielsen, U. H., Tyran, J. R., & Wengström, E. (2014). Second thoughts on free riding. *Economics Letters, 122*(2), 136-139.

Omoto, A. M., Snyder, M., & Hackett, J. D. (2010). Personality and motivational antecedents of activism and civic engagement. *Journal of Personality, 78*(6), 1703-1734.

Penner, L. A., Dovidio, J. F., Piliavin, J. A., & Schroeder, D. A. (2005). Prosocial behavior: Multilevel perspectives. *Annual Review of Psychology, 56*, 365-392.

Perlow, L. A., Okhuysen, G. A., & Repenning, N. P. (2002). The speed trap: Exploring the relationship between decision making and temporal context. *Academy of Management Journal, 45*, 931-955.

Pillutla, M. M., & Chen, X. (1999). Social norms and cooperation in social dilemmas: The effects of context and feedback. *Organizational Behavior and Human Decision Processes, 78*(2), 81-103.

Piovesan, M., & Wengström, E. (2009). Fast or fair? A study of response times. *Economics Letters, 105*(2), 193-196.

Pizarro, D., Uhlmann, E., & Bloom, P. (2003). Causal deviance and the attribution of moral responsibility. *Journal of Experimental Social Psychology, 39*, 653-660.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior research methods, instruments, & computers, 36*(4), 717-731.

Rai, T. S., & Fiske, A. P. (2011). Moral psychology is relationship regulation: Moral motives for unity, hierarchy, equality, and proportionality. *Psychological Review,*

118(1), 57-75.

Rand, D. G., & Epstein, Z. G. (2014). Risking your life without a second thought: Intuitive decision-making and extreme altruism. *PloS one, 9*(10), e109687.

Rand, D. G., Greene, J. D., & Nowak, M. A. (2012). Spontaneous giving and calculated greed. *Nature, 489*(7416), 427-430.

Rand, D. G., & Kraft-Todd, G. T. (2014). Reflection does not undermine self-interested prosociality. *Frontiers in Behavioral Neuroscience, 8*, 1-8.

Rand, D. G., Newman, G. E., & Wurzbacher, O. M. (2014). Social context and the dynamics of cooperative choice. *Journal of Behavioral Decision Making, 28*, 159-166.

Rand, D. G., Peysakhovich, A., Kraft-Todd, G. T., Newman, G. E., Wurzbacher, O., Nowak, M. A., & Greene, J. D. (2014). Social heuristics shape intuitive cooperation. *Nature Communications, 5*, 1-12.

Rest, J. R. (1986). *Moral development: Advances in research and theory*. New York: Praeger.

Reynolds, S. J. (2006). Moral awareness and ethical predispositions: Investigating the role of individual differences in the recognition of moral issues. *Journal of Applied Psychology, 91*(1), 233-243.

Reynolds, S. J., Leavitt, K., & DeCelles, K. A. (2010). Automatic ethics: The effects of implicit assumptions and contextual cues on moral behavior. *Journal of Applied Psychology, 95*(4), 752.

Salas, E., Rosen, M. A., & DiazGranados, D. (2010). Expertise-based intuition and decision making in organizations. *Journal of Management, 36*, 941-973.

Shalvi, S., Eldar, O., & Bereby-Meyer, Y. (2012). Honesty requires time (and lack of justifications). *Psychological Science, 23*(10), 1264-1270.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422-445.

Simha, A., & Cullen, J. B. (2012). Ethical climates and their effects on organizational outcomes: Implications from the past and prophecies for the future. *The Academy of Management Perspectives, 26*(4), 20-34.

Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological Bulletin, 119*(1), 3-22.

Sonenshein, S. (2007). The role of construction, intuition, and justification in responding to ethical issues at work: The sensemaking-intuition model. *Academy of Management Review, 32*, 1022-1040.

Tenbrunsel, A. E., & Messick, D. M. (1999). Sanctioning systems, decision frames, and cooperation. *Administrative Science Quarterly, 44*(4), 684-707.

Tenbrunsel, A. E., & Smith-Crowe, K. (2008). Ethical decision making in organizations: Where we've been and where we're going. *Academy of Management Annals, 2*, 545-607.

Tinghög, G., Andersson, D., Bonn, C., Böttiger, H., Josephson, C., Lundgren, G., ... Johannesson, M. (2013). Intuition and cooperation reconsidered. *Nature, 498*(7452), E1-E2.

Tomasello, M. (2009). *Why we cooperate*. Cambridge, MA: MIT Press.

Treviño, L. K. (1986). Ethical decision making in organizations: A person-situation interactionist model. *Academy of Management Review, 11*, 601-617.

Treviño, L. K., den Nieuwenboer, N. A., & Kish-Gephart, J. J. (2014). (Un) ethical behavior in organizations. *Annual Review of Psychology, 65*, 635-660.

Treviño, L. K., Weaver, G. R., & Reynolds, S. J. (2006). Behavioral ethics in organizations: A review. *Journal of Management, 32*(6), 951-990.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science, 211*, 453-458.

Van den Bos, K., & Lind, E. A. (2013). On sense-making reactions and public inhibition of benign social motives: An appraisal model of prosocial behavior. Advances in *Experimental Social Psychology, 48*, 1-58.

Van den Bos, K., Müller, P. A., & Damen, T. (2011). A behavioral disinhibition hypothesis of interventions in moral dilemmas. *Emotion Review, 3*(3), 281-283.

Van Den Bos, K., Müller, P. A., & Van Bussel, A. A. (2009). Helping to overcome intervention inertia in bystander's dilemmas: Behavioral disinhibition can improve the greater good. *Journal of Experimental Social Psychology, 45*(4), 873-878.

Van den Bos, K., Van Lange, P. M., Lind, E. A., Venhoeven, L. A., Beudeker, D. A., Cramwinckel, F. M., ... van der Laan, J. (2011). On the benign qualities of behavioral disinhibition: Because of the prosocial nature of people, behavioral disinhibition can weaken pleasure with getting more than you deserve. *Journal of Personality and Social Psychology, 101*(4), 791-811.

Van Lange, P. M. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. *Journal of Personality and Social Psychology, 77*(2), 337-349.

Van Lange, P. M., De Bruin, E. N., Otten, W., & Joireman, J. A. (1997). Development of prosocial, individualistic, and competitive orientations: Theory and preliminary evidence. *Journal of Personality and Social Psychology, 73*(4), 733-746.

Verkoeijen, P. P., & Bouwmeester, S. (2014). Does intuition cause cooperation? *PloS One, 9*(5), e96654.

Victor, B., & Cullen, J. B. (1988). The organizational bases of ethical work climates. *Administrative Science Quarterly, 33*, 101-125.

Vohs, K. D., Mead, N. L., & Goode, M. R. (2006). The psychological consequences of money. *Science, 314*(5802), 1154-1156.

Vohs, K. D., Mead, N. L., & Goode, M. R. (2008). Merely activating the concept of money changes personal and interpersonal behavior. *Current Directions in Psychological Science, 17*(3), 208-212.

Wang, L., Zhong, C., & Murnighan, J. (2014). The social and ethical consequences of a calculative mindset. *Organizational Behavior and Human Decision Processes, 125*(1), 39-49.

Warneken, F., & Tomasello, M. (2006). Altruistic helping in human infants and young chimpanzees. *Science, 311*(5765), 1301-1303.

Warneken, F., & Tomasello, M. (2007). Helping and cooperation at 14 months of age. *Infancy, 11*(3), 271-294.

Weaver, G. R., Reynolds, S. J., & Brown, M. E. (2014). Moral intuition connecting current knowledge to future organizational research and practice. *Journal of Management, 40*(1), 100-129.

Wilson, T. D., & Schooler, J. W. (1991). Thinking too much: Introspection can reduce the quality of preferences and decisions. *Journal of Personality and Social Psychology, 60*, 181-192.

Yang, Q., Wu, X., Zhou, X., Mead, N. L., Vohs, K. D., & Baumeister, R. F. (2013). Diverging effects of clean versus dirty money on attitudes, values, and interpersonal behavior. *Journal of Personality and Social Psychology, 104*(3), 473-489.

Zaki, J., & Mitchell, J. P. (2013). Intuitive prosociality. *Current Directions in Psychological Science, 22*(6), 466-470.

Zhong, C-B. (2011). The ethical dangers of deliberative decision making. *Administrative Science Quarterly, 56*, 1-25.